FUSIONX – SP4

MARCH 2023

DHLOGGER

HOW-TO DOCUMENTATION

DATAMINE SOFTWARE

DATAMINE

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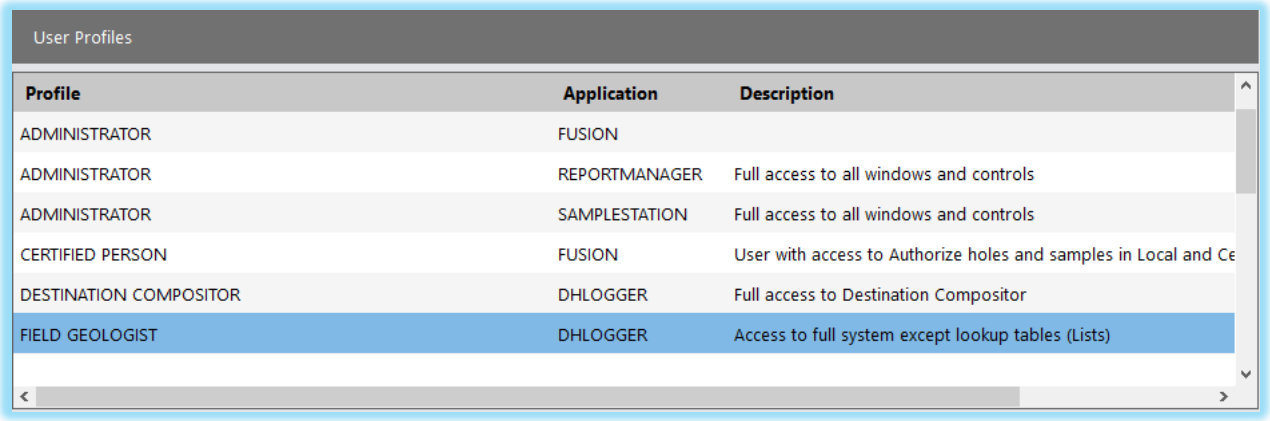
PURPOSE

DHLogger is designed to collect, store, analyze and report all drilling and sampling data collected. It can be run in a standalone configuration, but its capabilities are enhanced by running in a client server configuration bundled with our Fusion Central and Fusion Remote databases.

PREREQUISITES FOR USING THE APPLICATION

USER PROFILE PERMISSION

Accessing the DHLogger application can be done with any configured user. However, user profiles ensure access to modules is limited to qualified personnel. User profiles can be assigned in the User Administrator window within Fusion Administrator.



DATABASE CONNECTION

DHLogger runs against a DHLogger database hosted on the local computer. If DHLogger is running in a client server environment, drill hole data can be checked in and out of our centralized Fusion Central and Fusion Remote databases.

Logging of drill hole data can be performed directly against the Fusion Central and Fusion Remote databases provided the user is granted the “LOG AGAINST CENTRAL AND REMOTE” profile.

OVERVIEW

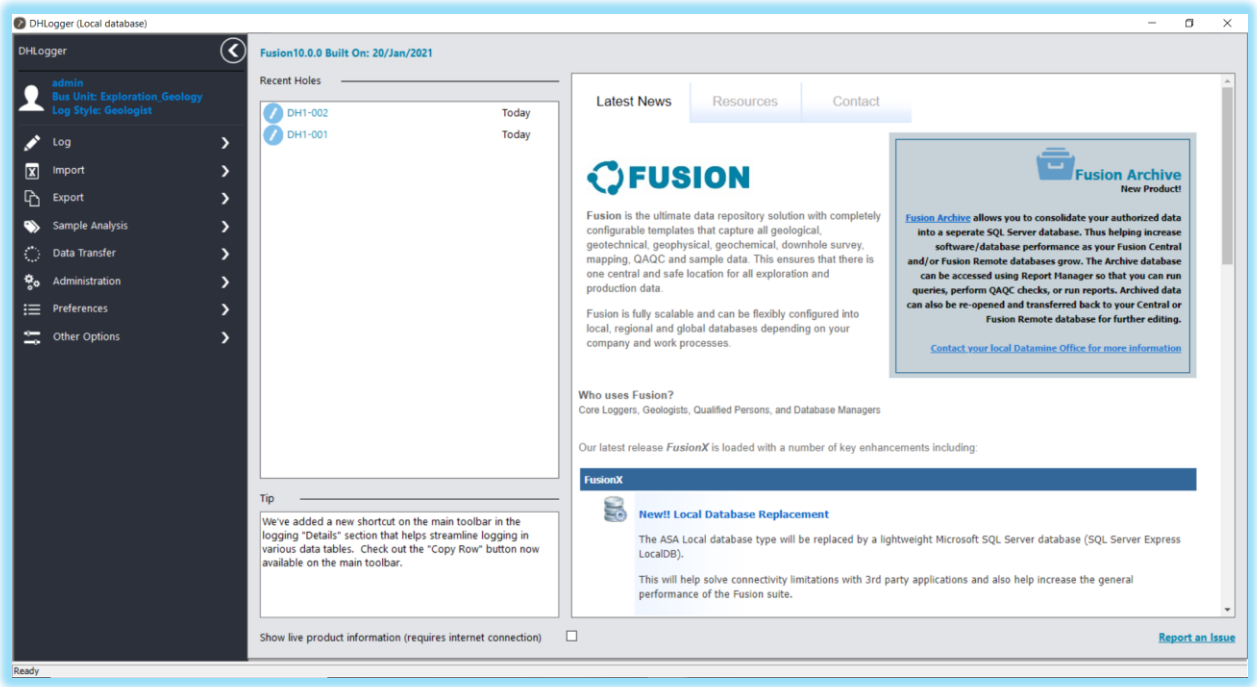
LAYOUT

The most frequently accessed modules have been categorized and can be accessed from the collapsible **Menu Bar** located on the left side of the main window. DHLogger consists of seven main groupings, with the remaining utilities and activities placed under *Other Options*.

DHLogger will open to the “Latest News” window, which contains information about the Fusion solution from Datamine, as well as Resources and Contact information.

The list of Recent Holes can be used to navigate directly to one of the last 15 holes that have been modified.

A Tip section shows information that may help you with your logging workflow.

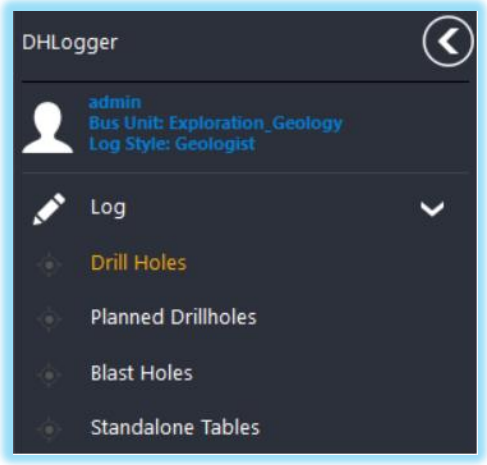


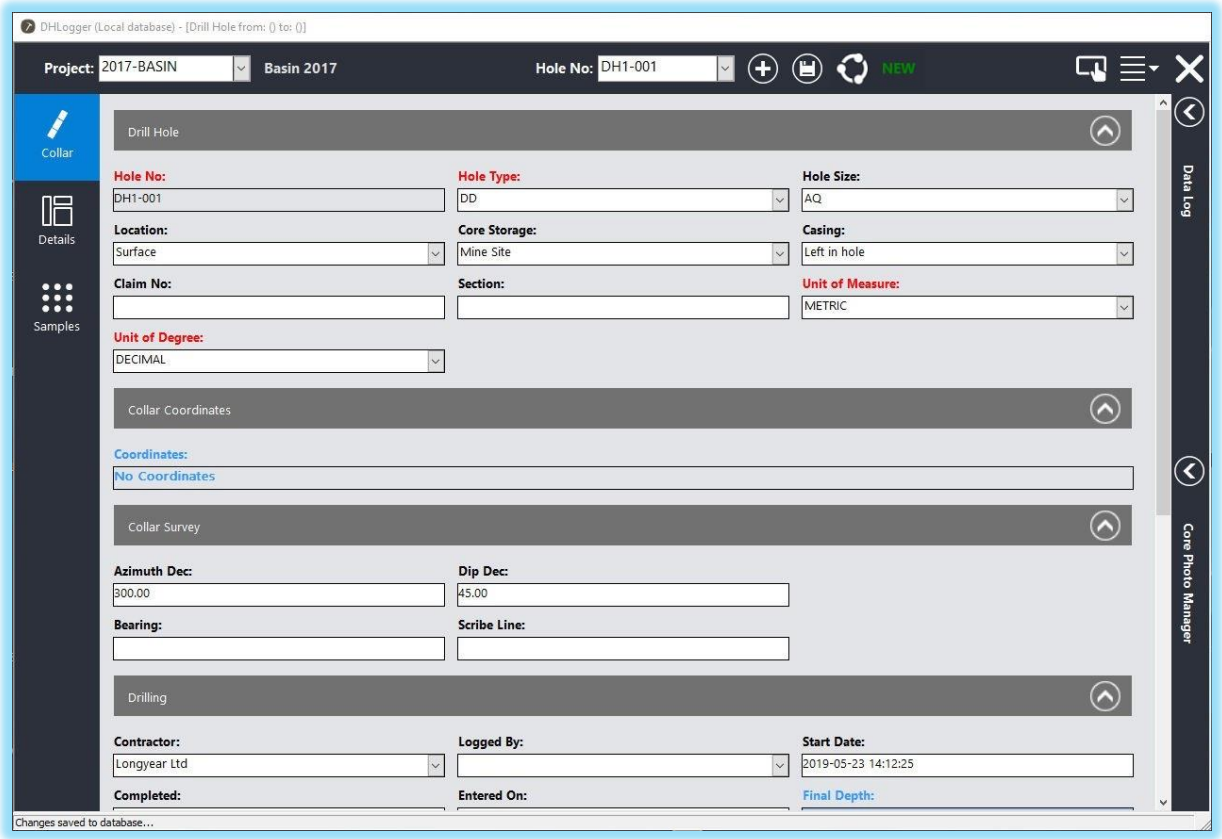
LOG: DRILL HOLES

Drill hole information is entered in DHLogger on the Drill Hole window.

Open the Drill Hole window by clicking the **Log > Drill Holes** menu.

NOTE: DHLogger must be connected to the Local Database to be able to access this window.





The drill hole window is separated into tabs or modules, accessible on the left-hand side. The modules that are visible are determined by the user's logging style configuration.

Collar

•This section is where drill holes are entered into the system and the properties of the drill hole are logged.

Details

•The details module is used to log Major and Minor Interval data for the hole as well as additional tables to log interval and non-interval related data about the drill hole. The tables displayed in the Details module can change based on the logging style configuration.

Samples

•The samples module on the Drill Hole window contains all of the sample and assay data associated with a particular hole. It may also contain calculated results including weighted averages if so required. Note the appearance of this screen will vary depending on which Sample Type is selected and which Business Unit you are currently a member of.

Composite Samples

•The composite samples module on the Drill Hole window contains all of the composite sample data associated with a particular hole. Note the appearance of this screen will vary depending on which composite Sample Type is selected and which Business Unit you are currently a member of.

LAS

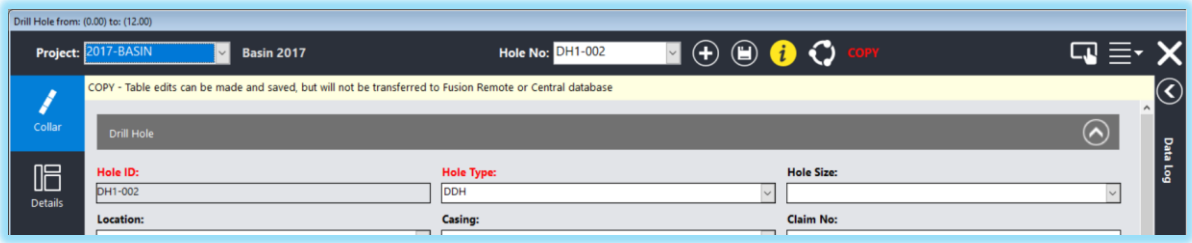
•The LAS (Log Ascii Standard) module provides a fully reproducible, tracked and auditable means for users to store and manage down hole probe data that is obtained in the form of an LAS file.

Depth Adjustment

•The Depth Adjustment module allows users to visually adjust drill log interval data for the hole against measured geophysical data.

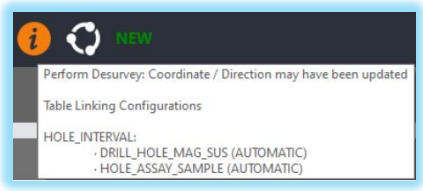
TABLE STATUS HEADER

A Status Header will appear in drill holes that do not have a status of 'NEW'. This header will inform you of the current table's status (eg. COPY – Table edits can be made and saved but will not be transferred to the Fusion Remote or Central database).



DESURVEY / TABLE LINKING INFORMATION

An orange or yellow **Information** icon ('i') may appear in the header of the drill hole window. Orange denotes possible data changes impacting tables that store desurveyed data. Yellow indicates the hole's original business unit contains table linking configurations. Orange will take precedence over yellow.



Hovering over the icon displays a tooltip with details.

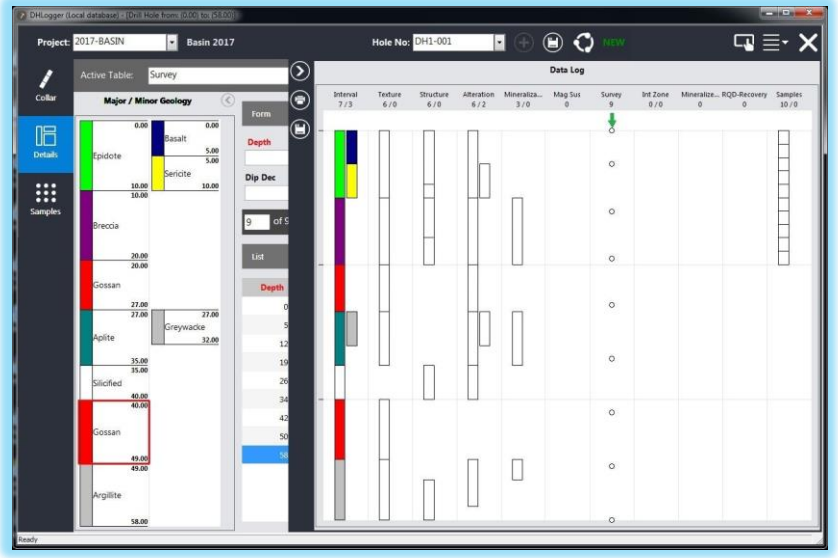
QUICK TRANSFER

With the consolidation of functions previously found in Fusion Client, the ability to do a quick check in or check out of a drill hole is available from the Drill Hole folder by pressing the **Fusion Transfer** icon. The transfer is attempted, with the action determined based on the current status of the drill hole in the Local database, and it uses the Default DSN that is set in the *Data Transfer > Synchronization Settings*. The hole becomes temporarily locked for edits until the transfer action is complete, and if successful the hole will unlock and the status of the drill hole will change to CHECKEDOUT or COPY, depending on the action. At the completion of the transfer, a notification will appear at the bottom right of the screen.

NOTE: Quick Transfer is disabled in an environment where Selective Transfer is enabled, to ensure the active selection of tables.

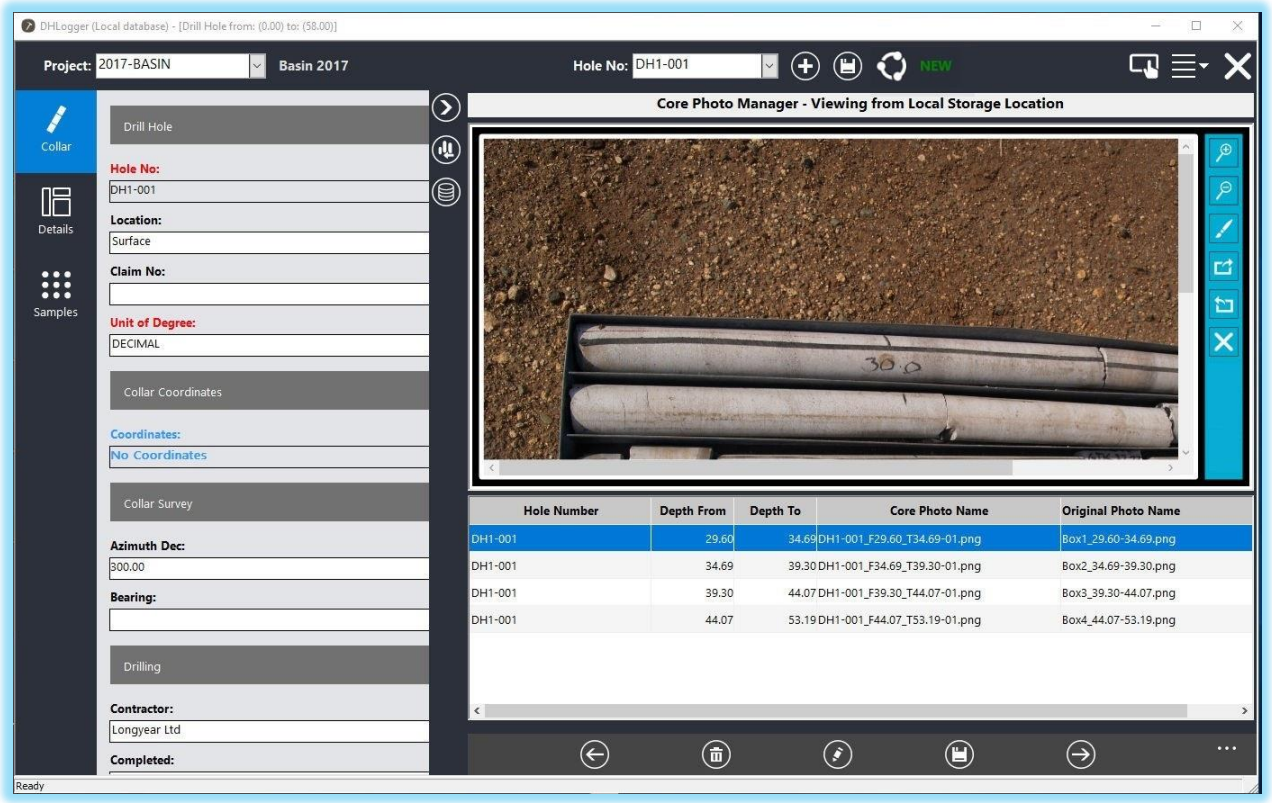
DATA LOG

A quick view of a drill hole's logged data can be accessed from the **Data Log** which slides out from the right-hand side of the window, partially over top of the current window – it is available from within each module. The Data Log provides a glimpse of the data that is logged in the tables that are configured to the user's current logging style. This view can be printed or saved to file. For a fully customizable graphical view of the data, use the **Graphic Log** utility.



CORE PHOTO MANAGER

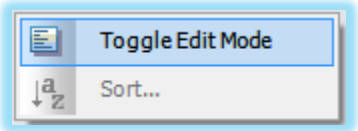
Core Photos can be added, viewed and edited in the **Core Photo Manager** which slides out from the right-hand side of the window, partially over top of the current window – it is available from within each module. The Core Photo Manager allows you to add photos, record depths for the photos and import a reference to them into the DRILL_HOLE_CORE_PHOTOS table. The photos will be renamed and copied to a defined Storage Location.



FORMATTING THE DRILL HOLE TAB

The layout of fields that appear on the Drill Hole tab can be configured by the end user by placing the form into Edit Mode.

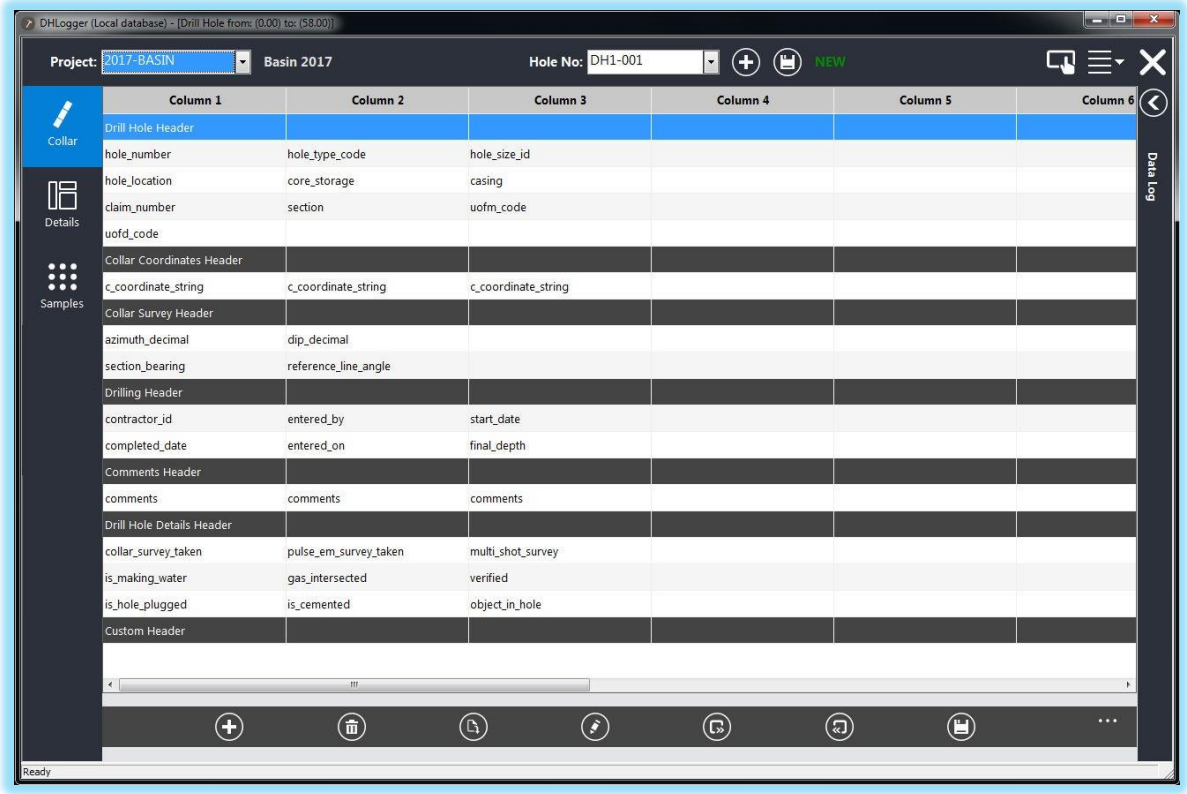
Click the right mouse button on the Drill Hole tab to open the menu. Then choose the 'Toggle Edit Mode' menu item.



Or alternatively, choose **Toggle Edit Mode** from the **Options menu list**.

The fields are placed into a grid that allows the user to easily drag and drop them to the desired location and expand them across multiple columns.

Headers can be added and removed, and the header title can be renamed.



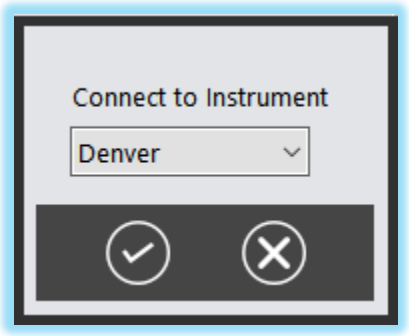
NOTE: Customization can also be performed on any of the Form views in the Details and Samples modules by setting the form into Edit Mode. However, headers are only available in the Collar form.

INSTRUMENT CONNECTION

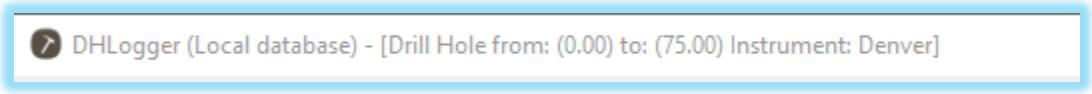
If instruments have been configured in Fusion Administration, geologists will be able to connect to an instrument to receive data directly into the current numeric or string column in the Drill Hole module.

To establish a connection with a specific instrument choose **Connect to Instrument** from the **Options menu list.**

Select the instrument you wish to connect to and hit the Connect button.



Once a connection is established, the title of DHLogger will be updated to show the currently connected instrument.



Now place your cursor in the numeric or character column you would like to receive data. Push the print button on the instrument to send the value to DHLogger.

NOTE: Data can only be received while in the Drill Hole window in DHLogger.

CREATING A NEW HOLE

Select the Collar module and pick a project from the Project pick list.

Click the New button to add a new drill hole.

Enter a unique hole number. The hole number field supports letters, numbers, space, and special characters except the following:

- Single quote '
- Double quote “
- Comma ,
- Semicolon ;
- Tilde ~
- At @
- Pound #

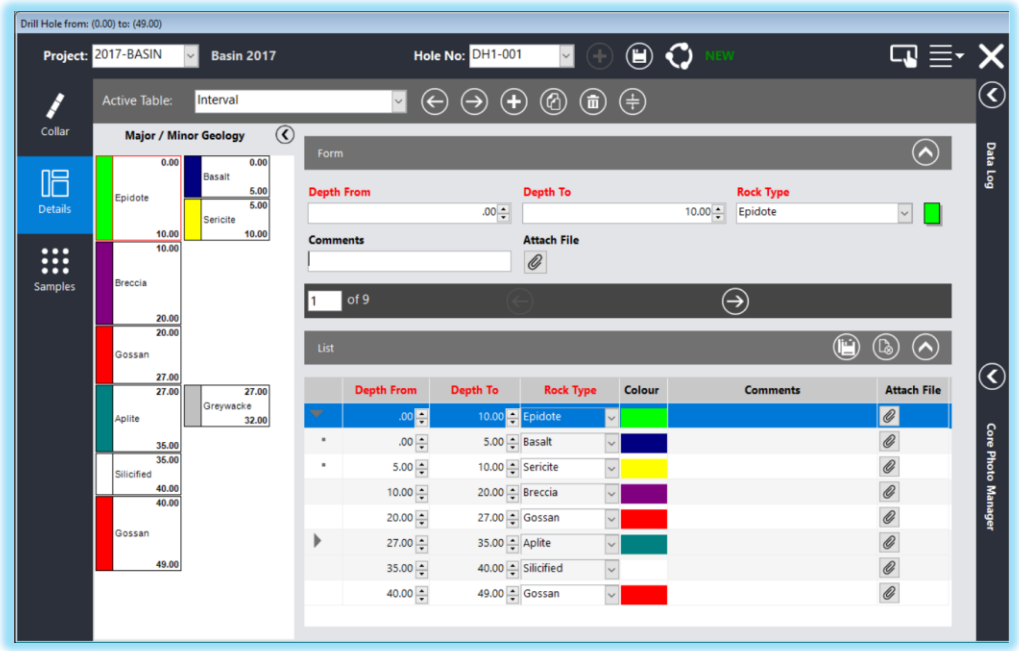
Populate remaining drill hole data and required columns.

NOTE: Required fields display with a red title.

LOGGING INTERVALS

Once the drill hole has been created, logging interval data can begin.

Click the Details module. The major and minor intervals will appear as a graphical representation in the two panes on the left side of the window. If minors are not configured, then only the Major Geology will be displayed.



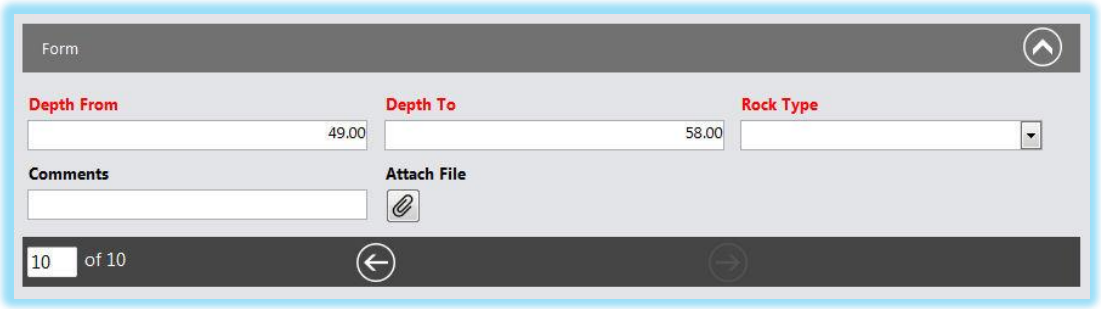
The Details Toolbar is used to move between tables, add, copy, delete, and split records, and select multiple records with the use of checkboxes.

Logging Interval Data

If necessary, select “Interval” from the Active Table pick list, and you will see that both a Form (single record) and List (multiple records) view of the interval data is displayed.

Click the New button to add a new interval. 

Data can be entered into either the Form or List view, depending on preference, but if data is entered in both, when the record is saved the information from the Form overwrites the information in the List.



Required Fields: Depth From, Depth To and Rock Type

The Depth From column must be less than the Depth To column and must not overlap existing intervals. If adding a minor interval, both depth values must exist within a major interval range.

Use the Rock Type picklist to select the Rock Type from the Rock Type Selection tree.

Additional Fields

Comments can be entered, and photos/images can be added to the interval by using the "Attach File" button that opens an image viewer.

This table can be configured with additional custom columns, allowing for the storage of other necessary interval-related information.

Click the Save button beside the Hole Number to save the drill hole. The new interval will be represented graphically in the "Major/Minor Geology" pane.

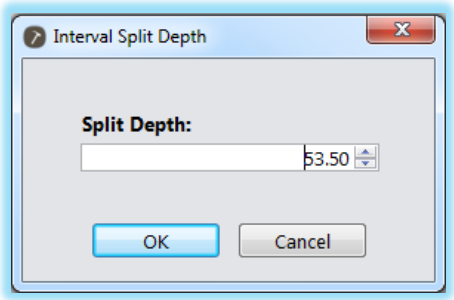
To copy a row, select the row in the List view and click the New From button. The columns from the selected row will be copied, but the depths will be set to the values that would be used during a manual insertion. 

To delete an interval, select the interval in the pane, or in the List view and click the Delete button. 

NOTE: Major Intervals can't be deleted if child or interval-related data exists for the interval – this data must be deleted first. If deleting a Major Interval where a gap would be introduced,

the depths of the two surrounding Majors will be automatically adjusted to equally distribute the deleted interval's length to each. For example, deleting an interval from 10-20 will set the previous interval's "Depth_To", and the following interval's "Depth_From" to 15.

To split an interval, select the interval from the pane or list view and click the Split button. Specify where the split should occur within the interval range and click OK to accept the change.



Things to Know about Intervals in DHLogger

1. Minor Intervals must be associated to Major Intervals as sub-units.
2. Major Intervals must be defined prior to adding Minor Intervals to them as sub-units.
3. Minor Intervals typically describe small or less significant core properties such as alteration or minor lithology. They should therefore be used as much as possible to provide added flexibility during downstream analysis and viewing.
4. All Texture, Structure, Alteration, and Mineralization records are generally linked to specific Major and Minor intervals, unless otherwise configured.
5. All RQD (Rock Quality Descriptor), Magnetic Susceptibility, Direction, Coordinates, and Wedge Records are generally linked directly to the drill hole itself rather than an interval, unless otherwise configured.
6. New intervals will have the same length as the last defined interval, however this can be easily changed by editing the Depth To value to make the interval longer or shorter.
7. The Depth To value must always be greater than the Depth From value.
8. Major Intervals must form a continuous, non-overlapping string in the core record for any single hole and there are absolutely NO EXCEPTIONS to this rule.
9. In the event there are gaps in your core record, a "No Core Available" rock type or something similar must be created and used to represent such intervals in the Details view. Failing to do so will not allow intervals beyond the gap to be defined since the core record **must be continuous** in DHLogger.

LOGGING DETAIL DATA

Standard and custom drill hole and interval related tables will appear in the “Active Table” picklist in the Details module on the Drill Hole window. The tables displayed are dependent on the configuration of the current logging style for the logged in user.

Navigation through tables can be done using the picklist or the Next and Previous arrows that will switch to the next or previous table in the picklist, relative to the current table. (ALT + P, ALT + N can be used to navigate to previous/next tables)

Hovering over the arrows will display a ‘tooltip’ that shows the name of the corresponding table.

To Collapse or Expand the Form and/or List View, use the arrow on the corresponding band.

An additional layout option is to hide the form and band completely using the ‘Show/Hide Form’ button on the List band.

On the List band another button allows for saving the List window into an external format (eg. TXT, CSV, XLS)

To add a new detail record, select the desired table and click the new button. A new record will appear in the Form view, and a new blank row will appear in the List view of the selected table. Enter the appropriate data and click Save.

NOTES:

When entering records in an interval-related table, DHLogger will attempt to automatically assign the data to a Major interval. If no interval can be found because depths do not fit within an existing interval, you will be informed of this with a pop-up message.

If you want to enter a record for a Minor interval, you will need to specifically select the interval from the Major/Minor Geology pane before adding the record.

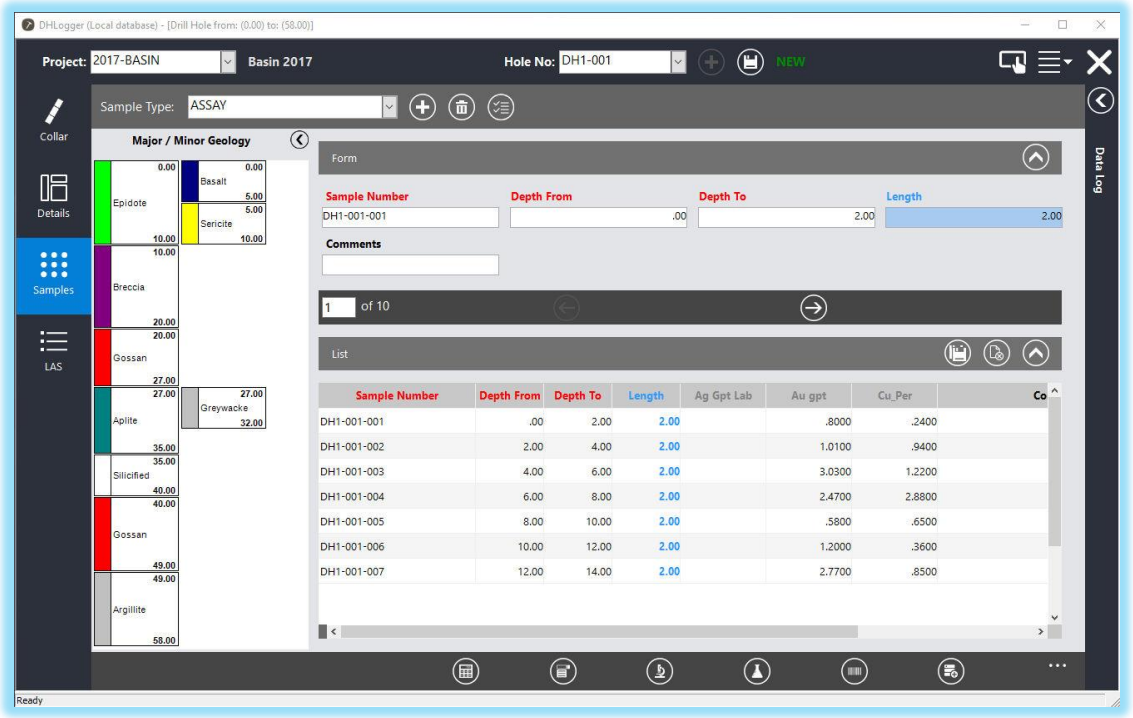
Drag-Insert and Drag-Overwrite functionality exists to quickly and easily add new data or overwrite multiple rows and columns at the same time.

To add new rows, in the List View, hold the left-mouse button down in the last row, highlighting the columns that you want to copy, and drag down to add more rows.

To overwrite data, in the List View, hold the left-mouse button down in the row and column(s) that you want to copy values from, and drag up or down to the rows you want to update. A prompt will be presented to confirm or cancel the action.

LOGGING SAMPLES

The Samples module contains all the sample and assay data associated with the selected hole. It may also contain calculated results including weighted averages, depending on configuration.



NOTE: The appearance of this screen will vary depending on which Sample Type is selected and which Business Unit you have currently chosen to be active.

To add a new sample, select the Samples tab and pick a non-qc Sample Type from the picklist. Click the New button. A new row will be added to the Form view (which may or may not be expanded) and to the List view. A default sample number using the hole number and a three-digit sequential number will be assigned unless a sample naming template is specified. Sample number field supports letters, numbers, space, and special characters except the following:

- Single quote '
- Double quote “
- Comma ,
- Semicolon ;
- Tilde ~
- At @
- Pound #

Templates are defined in the Sample Naming Template reference table in Fusion Administrator. And, support for special characters has been extended to Sample Naming Template as well.

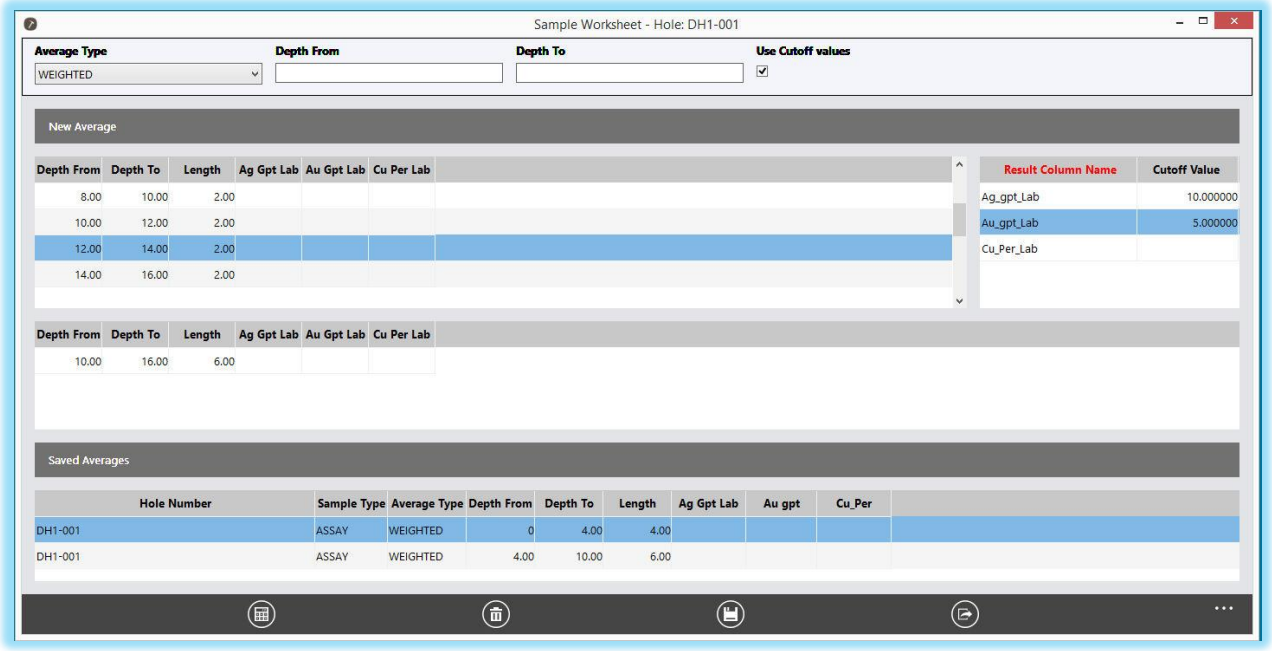
Enter the appropriate information into the required fields and click the Save button to save the sample.

The Form view, which is only visible when a Sample Type is chosen (not "(Show All)"), is built with only editable and calculated fields displayed.

Generating Regular and Weighted Averages

The Worksheet feature is used to calculate regular or weighted averages for a given set of samples. It also enables users to save these results to the database for later use, print hard copies of them or export them to file formats used in other programs.

From the Samples tab, clicking on the Worksheet button will open a new window from which to perform calculations.



Select the Average Type you wish to calculate. There are three average types available. Regular, SG Weighted, and Weighted

Regular

•The average is found by adding all grades together and dividing them by the total number of samples.

SG Weighted

•The average is found by dividing the sum of the products of individual grades, interval lengths and specific gravity by the sum of the products of the interval lengths and specific gravity.

Weighted

•The average is found by dividing the sum of the products of individual grades and interval lengths by the total interval length.

Select the start and end sample of the interval to be averaged in the New Averages section. All the entries between these starting and ending samples will be included in the calculations.

NOTE: Partial intervals may be included in the averaging calculations by typing the start and end depth to be averaged into the Depth From and Depth To fields. These depths don't have to match the interval depths.

Check the Use Cutoff Values checkbox to limit interval grades to their cutoff values when performing the averaging calculations.

NOTE: Gaps in sample data over the averaging interval length are also included in the calculations and are weighted at zero grade.

An additional calculation of 'Horizontal Length' is automatically performed when a new average is created. The sample horizontal length is calculated using the dip closest to the starting depth with the highest-ranking survey type, and the following formula:

```
HorizontalLength = ATAN(((90 - ABS(Dip)) * Pi(1)/180 ))*(DepthTo - DepthFrom)
```

Click the Calculate Average button to calculate averages for each element type in the samples over the specified interval.

Click the Save button to save results to the database.

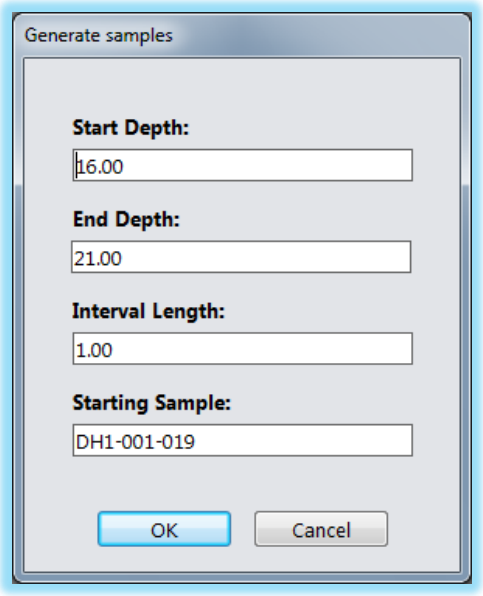
Click the Save As button to save the 'Saved Averages' window to an external format (eg. TXT, CSV, XLS)

Generating Samples

This feature is used to automatically generate sample records with a specified interval between a defined start and end depth.

From the Samples tab, click the Generate button.

Enter the auto generation parameters. With the information shown here, this feature will create the first sample 'DH1-001-019' at 16m deep with an interval length of 1m. The next sample 'DH1-001-020' will be generated at 17m deep with an interval of 1m. A total of 5 samples will be generated.

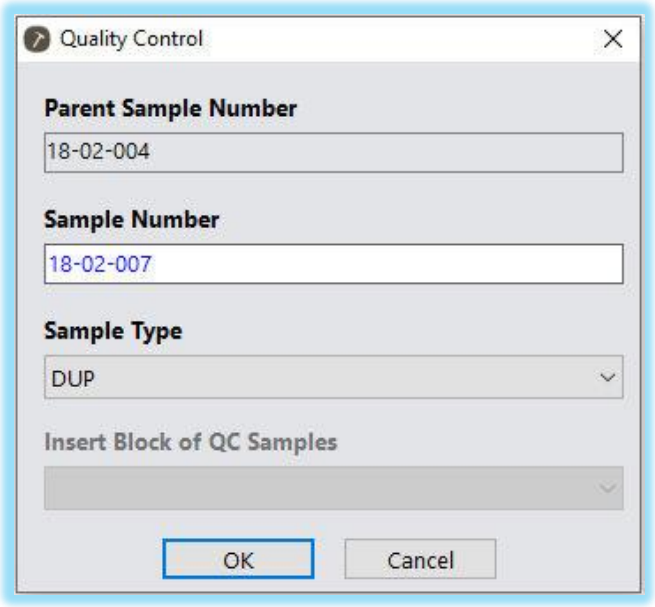


Logging QC Samples

This feature generates new sample numbers from existing ones for QC sample types. QC sample types are defined on the Sample Types reference table in Fusion Administrator.

Select an existing sample (which will become the Parent) and click the Quality Controls button.

Select the QC sample type you wish to assign and click the OK button to add the new QC sample.



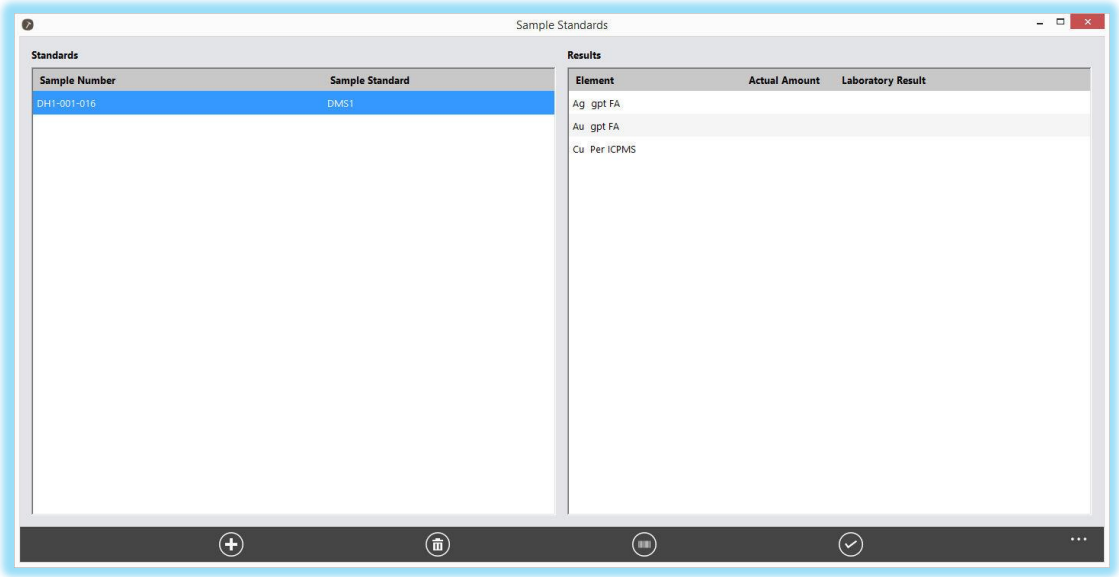
Alternatively, instead of selecting a single sample type, you can choose to select a block of QC Samples, allowing for multiple QC Samples to be created at one time from the single parent sample. The configuration required to allow the block insertion is performed in the QC Packages module in Fusion Administrator.

Logging QC Standards

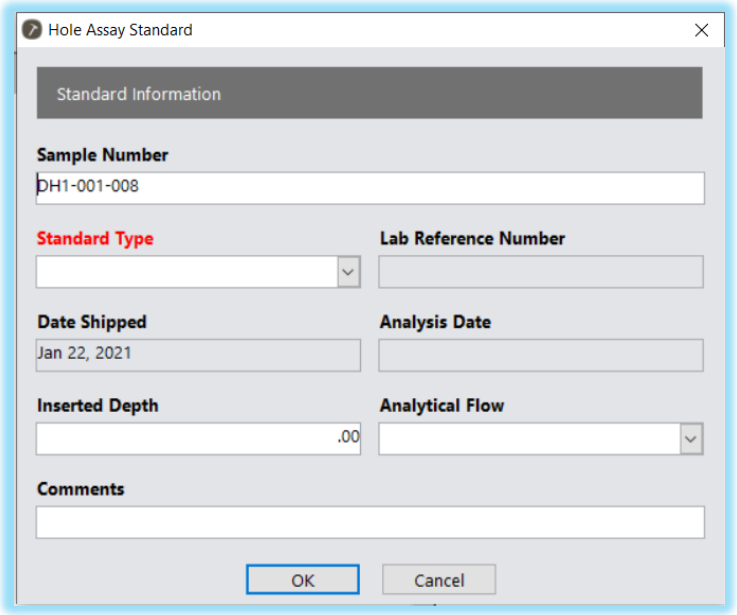
This feature is used to setup sample standards which are used to test the accuracy of laboratories. This is done by submitting a previously analyzed sample to a lab and checking their results against the known sample results.

From the Samples tab, click the Standards button

The Sample Standards window will appear displaying all standards currently associated with the drill hole.



Click the New button to open the Hole Assay Standard window.



Select the Standard type from the picklist. This field is populated from the Sample Standards reference table in Fusion Administrator.

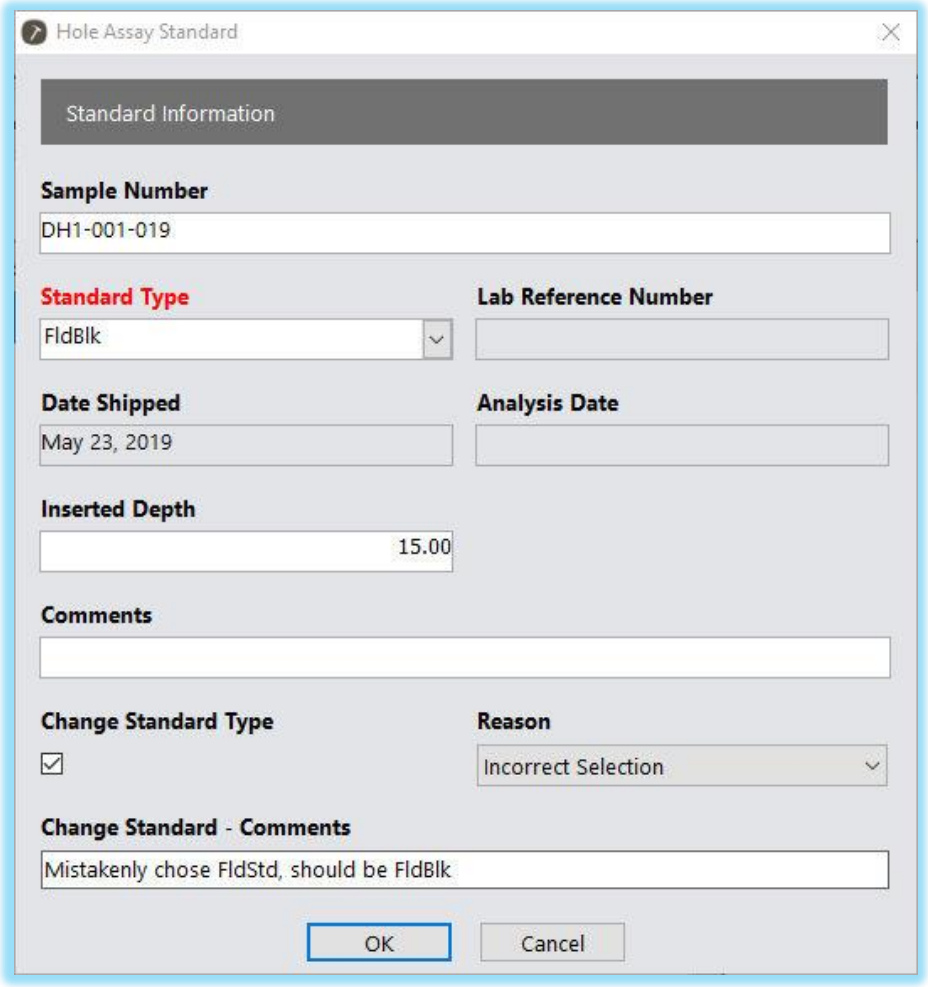
Some users may add the 'Inserted Depth' which identifies at what depth in the Sampling program the standard corresponds.

If configuration has been added that uses Size Fractions and Analytical Flows, the ability to select the Analytical Flow for the Standard's analysis becomes enabled.

Click the OK button to add the standard. It will now appear in the Sample Standards window.

NOTE: Sample tags for the defined standards can be printed by clicking the Print Tags button on the Sample Standards window. Clicking on this button will bring up the Sample Tag Generator window.

Occasionally, a user may find that they made a mistake when they have selected the standard type. If the user has the "Qualified Person" profile, they will be able to make a change to the standard type, without having to delete and re-create the standard.



Three fields at the bottom of the window become visible to the 'Qualified Person', allowing them to indicate the need to Change Standard Type and provide a Reason (the picklist is configured in the Object Audit Codes in Fusion Administrator).

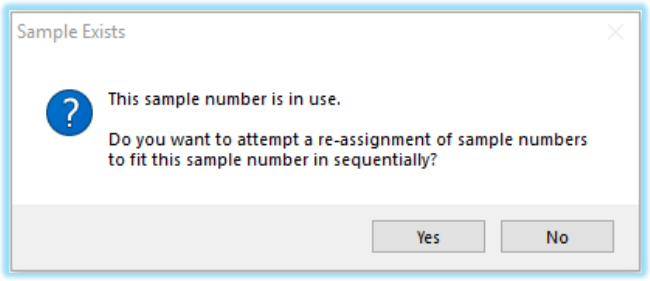
Once those two fields are populated, the Standard Type picklist becomes enabled again, allowing the user to pick a new type, and enter comments if appropriate.

Clicking OK will save the standard with the new type, delete any results from the HOLE_ASSAY_STANDARDS table for the original standard, and flag any results in the DHL_SAMPLE_COLUMN_DETAILS as not 'active'.

Sample Number Re-assignment

Your workflow might dictate that you generate a sequence of samples at regular intervals and then go back and insert QC Samples and Standards at various positions in the set of samples. If you would like the sample numbers to appear as though the QC and Standards were entered at the same time, a system (or business unit) preference exists for this purpose: "Prompt to re-assign QC Sample / Standard sample numbers".

With this setting enabled, you can autogenerate your samples, and then when inserting your QC Samples, use a sample number which has already been used in your sequence. When you do this, you will be notified of the 'duplication', but prompted to decide if you want to re-assign the samples/standards/QC samples that follow in the sequence.



If you enter 'Yes', your standard or QC sample will be given the sample number, and the existing sample (and subsequent samples) will be reassigned, keeping your sequence in order.

If you enter 'No', you must give your standard or QC sample a unique, unused sample number.

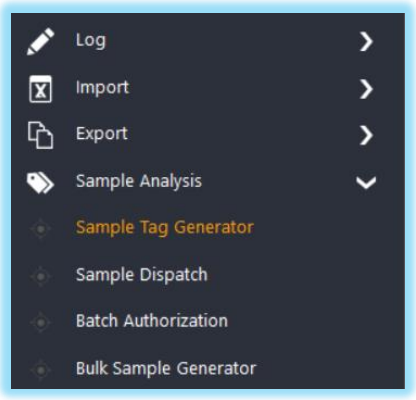
There are several cases where the re-assignment of samples cannot occur, and in these scenarios, it will be disallowed:

- If the hole is not the 'Master'
- If the hole has the AUTHORIZED status (drill hole authorization)
- If the sample table has been Authorized (process flow authorization)
- If any sample that is to be 'reassigned' belongs to another hole (as a Sample, Standard or Composite)
- If any sample that is to be 'reassigned' exists as a Surface Sample or a Map Sample Object
- If any sample that is to be 'reassigned' is used as an original sample for a Composite Sample
- If any sample that is to be 'reassigned' has size fractions, density fractions or is a size fraction or density fraction
- If any sample that is to be 'reassigned' has had results imported (checks DHL_SAMPLE_COLUMN_DETAILS table)
- If any sample that is to be 'reassigned' has been dispatched (checks DHL_SAMPLE_DISPATCH_SAMPLES), unless you are a QUALIFIED PERSON, where you can override the check and allow the reassignment
- If the table is not master / has not been checked out (selective transfer configuration)

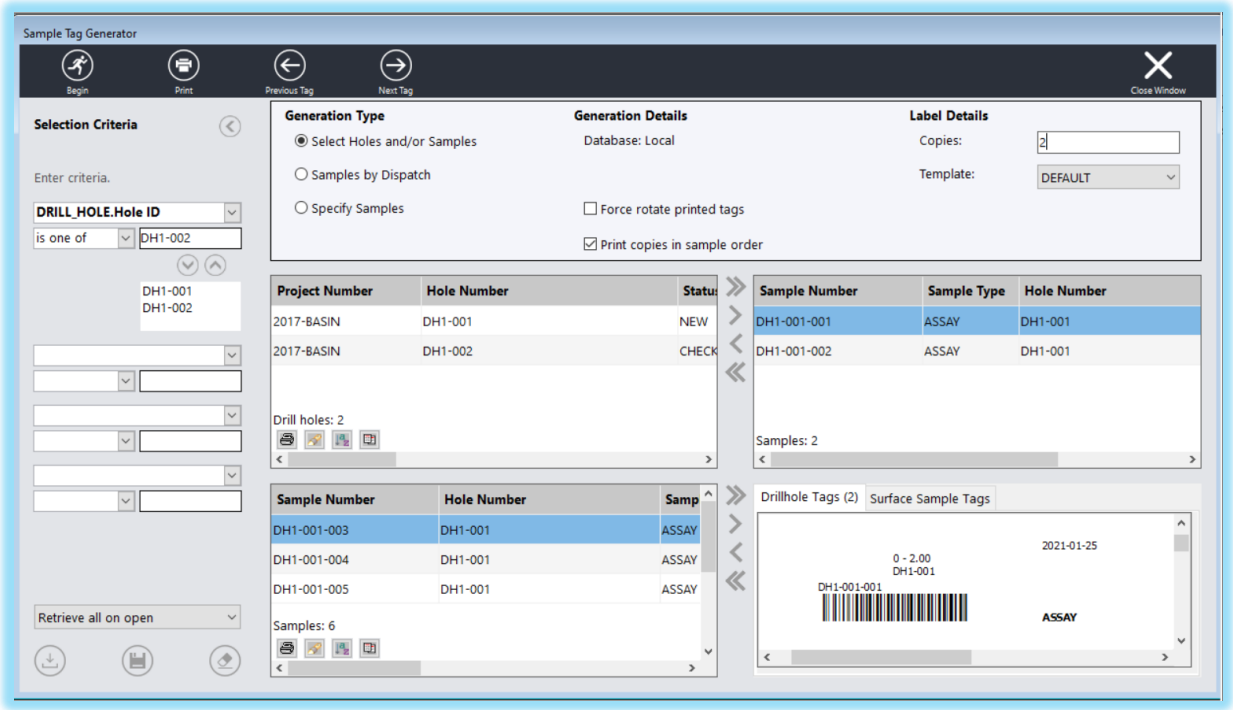
Printing Sample Tags

This option is used to produce sample tags for easy identification of samples.

Click the Print Tags button from the Samples tab or the **Sample Analysis > Sample Tag Generator** menu.



The Sample Tag Generator will open allowing the user to print tags for existing samples, or they can specify the sample number, and quantity, and the sample tag generator will create tags for those samples.



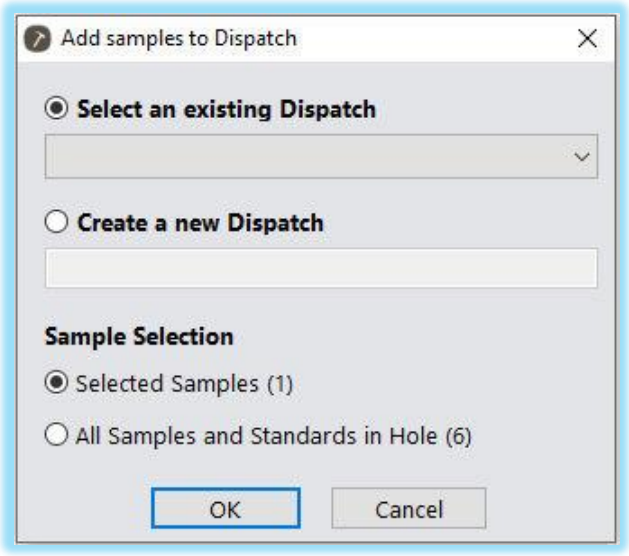
If you wish to print tags for existing samples, choose the 'Select Holes and/or Samples' option. Users can add one or more holes by dragging and dropping the list of holes or by using the navigation buttons. Users can also add one or more samples by dragging and dropping the selected samples or by using the navigation buttons.

Specify the number of copies you would like to generate and select a template to generate. Click the Begin button to generate the sample tags.

NOTE: Sample tag templates can be created and customized on the Sample Tag Configuration window in Fusion Administrator.

Add Samples to Dispatch

The Add Samples to Dispatch feature is used to assign samples and standards to a new or existing dispatch directly from the Samples tab. Selection of standards is possible when the '(Show All)' sample type is selected, along with the 'Show Standards' checkbox.



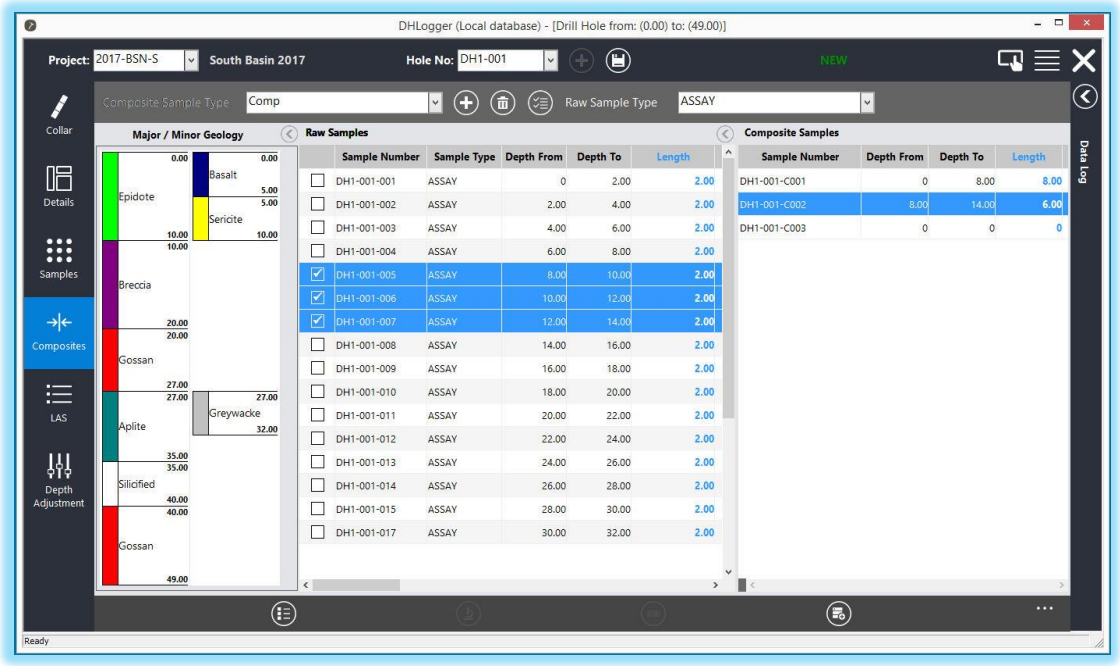
From this window, users can choose to add the samples to an existing dispatch, which has a status of NEW in the current database, or they can choose to create a new dispatch.

Users also have the choice of adding only the samples and/or standards that they have selected, or adding all the samples, composite samples and standards that are associated with the current drill hole.

After making their selections, click OK to perform the action. At this time, the user will be prompted to open the Dispatch module to continue with completing the dispatch information.

LOGGING COMPOSITE SAMPLES

This tab/module allows the creation of composite samples based on one or more short core samples allowing analysis on the group.



NOTE: The appearance of this screen will vary depending on which Sample Type is selected and which Business Unit you have chosen to be active.

To add a new composite sample, select a non-qc Composite Sample Type from the picklist, then click the New button. A new row will be added to the right-most list. A default sample number using the hole number and a three-digit sequential number will be assigned unless a sample naming template is specified. Sample number field supports letters, numbers, space, and special characters except the following:

- Single quote '
- Double quote “
- Comma ,
- Semicolon ;
- Tilde ~
- At @
- Pound #

Sample naming templates can be defined on the Sample Naming Template reference table in Fusion Administrator. And, support for special characters has been extended to Sample Naming Template as well.

Enter the appropriate information into the required fields and click the Save button to save the sample.

Samples can be associated with a composite sample by choosing a composite sample and clicking the Select Raw Samples button. The Raw Samples section will expand allowing selection of one or more samples. A second click of the button completes the process, assigning the raw samples to the composite sample.

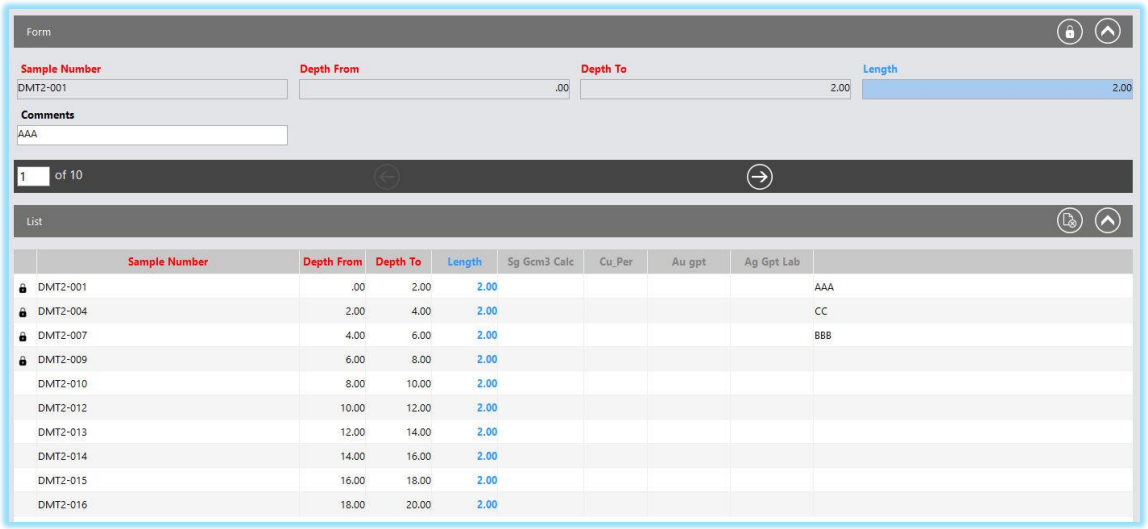
Quality Control samples can also be created from composite samples. Select the composite sample from which you want to create the QC sample, then click the Quality Controls button to create the new sample.

The Print Tags button will open the Sample Tag Generator window that will allow users to generate and print labels for the samples.

Users can select composite samples and use the Add Samples to Dispatch button to quickly create or modify and existing dispatch.

LOCKED DISPATCHED SAMPLES

With the "Lock Samples in Data Tables after they are dispatched" preference enabled, there are some changes to the sample logging in DHLogger and Sample Station. Once a sample (or Standard) has been identified as being dispatched, it will be locked.



Sample Number	Depth From	Depth To	Length	Sg Gcm3 Calc	Cu_Per	Au gpt	Ag Gpt Lab	
DMT2-001	.00	2.00	2.00					AAA
DMT2-004	2.00	4.00	2.00					CC
DMT2-007	4.00	6.00	2.00					BBB
DMT2-009	6.00	8.00	2.00					
DMT2-010	8.00	10.00	2.00					
DMT2-012	10.00	12.00	2.00					
DMT2-013	12.00	14.00	2.00					
DMT2-014	14.00	16.00	2.00					
DMT2-015	16.00	18.00	2.00					
DMT2-016	18.00	20.00	2.00					

A locked Sample will have the following:

- A lock icon beside it in the list
- A lock icon in the Form band

- Sample Number, Depth From, Depth To fields are not editable

A locked Standard will have the following:

- A lock icon beside it in the list
- A lock icon in the Header band in the window that opens when you double-click to edit a standard
- Sample Number field is not editable

A locked Composite Sample will have the following:

- A lock icon beside it in the list
- Sample Number, Depth From, Depth To fields are not editable
- The 'Select Raw Samples' toolbar button is disabled

A locked Surface Sample will have the following:

- A lock icon beside it in the list
- A lock icon in the Header band in the window that opens when you double-click to edit a Surface Sample
- Sample Number field is not editable

As a user without QUALIFIED PERSON profile:

- Fields (Sample Number, From, To) are not editable
- Samples, Standards and Composite Samples cannot be deleted
- Surface Samples can only be deleted if they are not the master version (ie. is a copy)
- Sample Numbers cannot be re-assigned, impacting the ability to insert standards and QC samples into a sequence

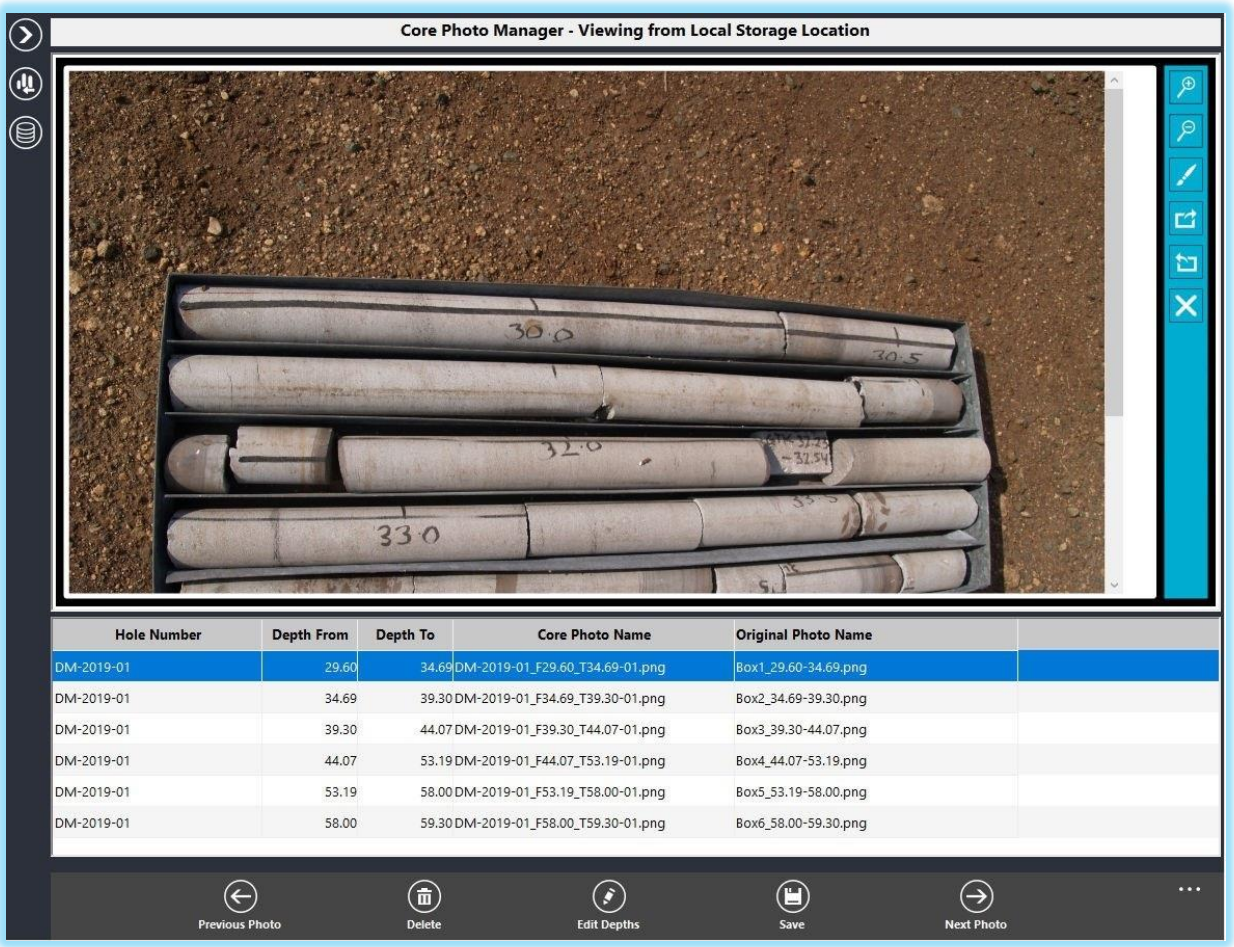
As a user with QUALIFIED PERSON profile:

- Locked samples can be unlocked by clicking on the Lock icon
    - (exceptions are Standards and Surface Samples, where the object must be opened with a double-click and then you can click on the Lock in the Header Band)
- When a sample is unlocked:
    - The lock icon changes to 'open'
    - Sample Number, Depth From and Depth To fields become editable
    - Composite Samples will have the 'Select Raw Samples' toolbar button become enabled

- If an unlocked sample is locked again, the changes are discarded and re-set to values prior to unlocking
- If an unlocked sample is saved, the old and new values are stored in the DHL_AUDIT_LOGGING table
- A locked sample can be deleted, but you will be prompted to confirm the deletion; and auditing will occur
- If a sample, standard, or composite sample is locked, it can not be renamed during re-assignment

LOGGING CORE PHOTOS

Core Photos are added in from the Core Photo Manager slide-out in the Drill Hole module. It is initially opened in 'Viewer' mode showing the current hole's records from the drill_hole_core_photos table.

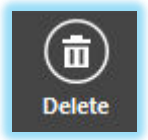


Switch to the Import window to add photos to the Drill Hole

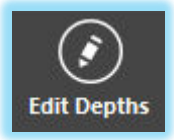
Opens a window to select a datasource. This will allow you to view the photos (load the image file) from the Storage Location that is defined in the selected datasource's database. This gives you the ability to view the photos from a centralized source, and means that you are not required to download the photos that other users upload when you check out or copy out holes to your local database.

Viewer Toolbar functions:

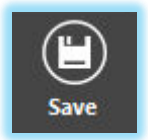
Navigation buttons to cycle through the list of imported photos.



Delete button to remove the associated photo from the drill hole, if the hole is New or Checked Out. The data will be removed from DRILL_HOLE_CORE_PHOTOS table, and if the System/Business Unit preference is enabled, the photo file itself will be deleted from the Local storage location.



If the drill hole's data is editable (New or Checked Out), the Depth From and Depth To data can be edited. When this occurs, the photo will be renamed to reflect the new depths.



If you are editing the depths of a photo record, the Save button is required to be pressed to commit the changes and rename the photo. When not editing the depths, pressing the Save button will result in a new row with the same depths, but an incremented photo_name being added to the DRILL_HOLE_CORE_PHOTOS table.

Image Editor Toolbar functions:

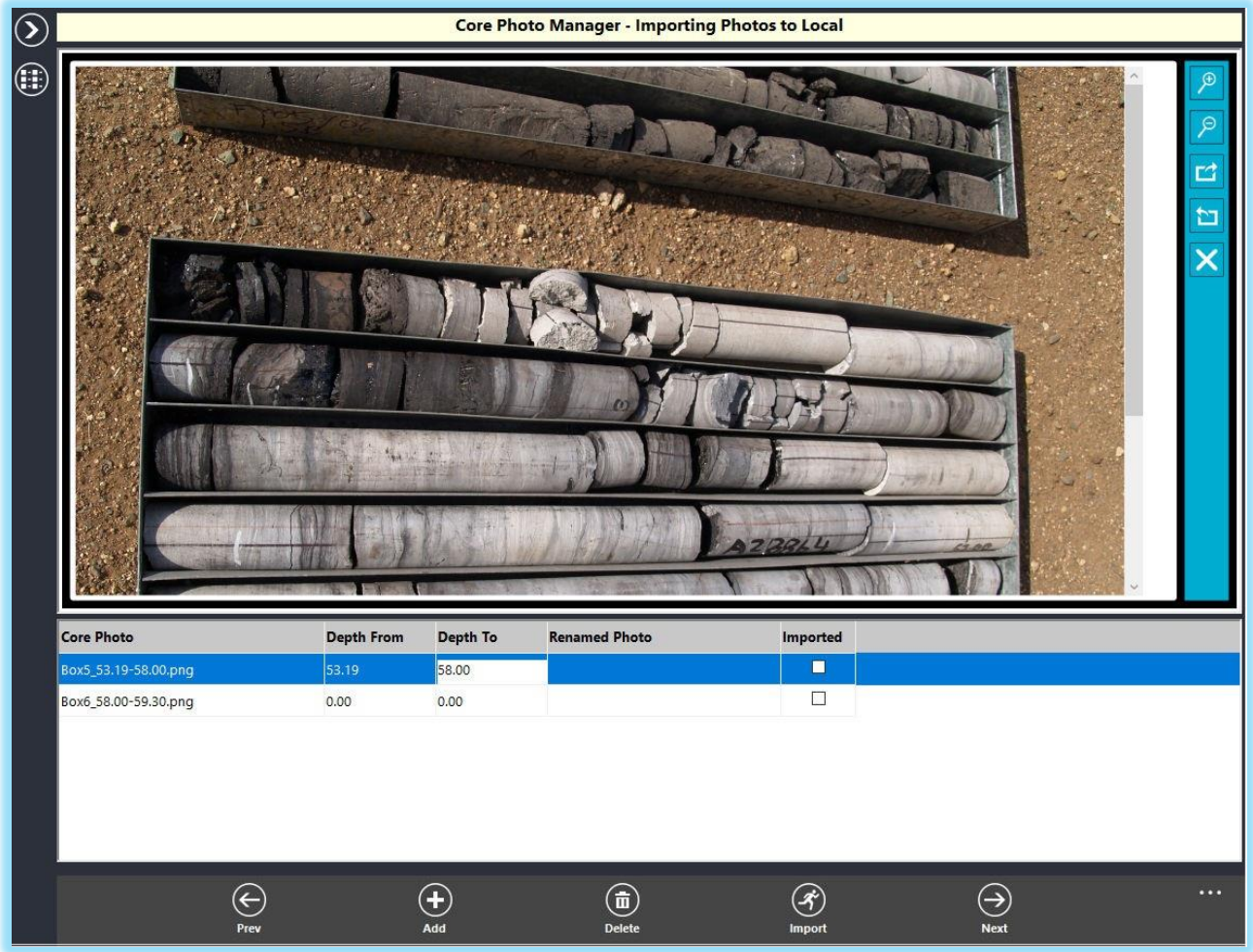
Zoom In, Zoom Out: Use to adjust the magnification of the photo. This does not affect the saved image, it is a viewing tool only, not an editing tool.

Rotate Clockwise, Rotate Counter-Clockwise: Used to rotate the image 90 degrees at a time (clockwise or counter-clockwise). This is an editing tool, so rotated images can

be saved in their final state.

Free Draw: An editing tool that allows you to markup the photo with free-hand drawing and writing. A separate toolbar will appear with brush colour selection and Done buttons.

Undo All Changes: Used to revert the image back to the original state, un-doing all changes made since the image was loaded.

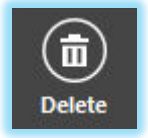


Switch to the Viewer window to see the photos that have been added to the Drill Hole.

Import Toolbar functions:

Navigation buttons to cycle through the import list of photos.

Use the Add button to select the photos from a location on the local computer, to be added and imported to the drill hole. Records will be added with the depths either ZERO or EMPTY, depending on the system preference setting.



Use the Delete button to remove photos that have not yet been imported, or were just imported to the drill hole. Whether the photo image itself is deleted depends on a system preference setting.

Use the Import button to finish the process of associating images to the drill hole. This can be done after you have entered valid depths for each photo. On completion of the import, the image will be copied and renamed in the local Storage Location.

LINKED TABLE SYNCHRONIZATION

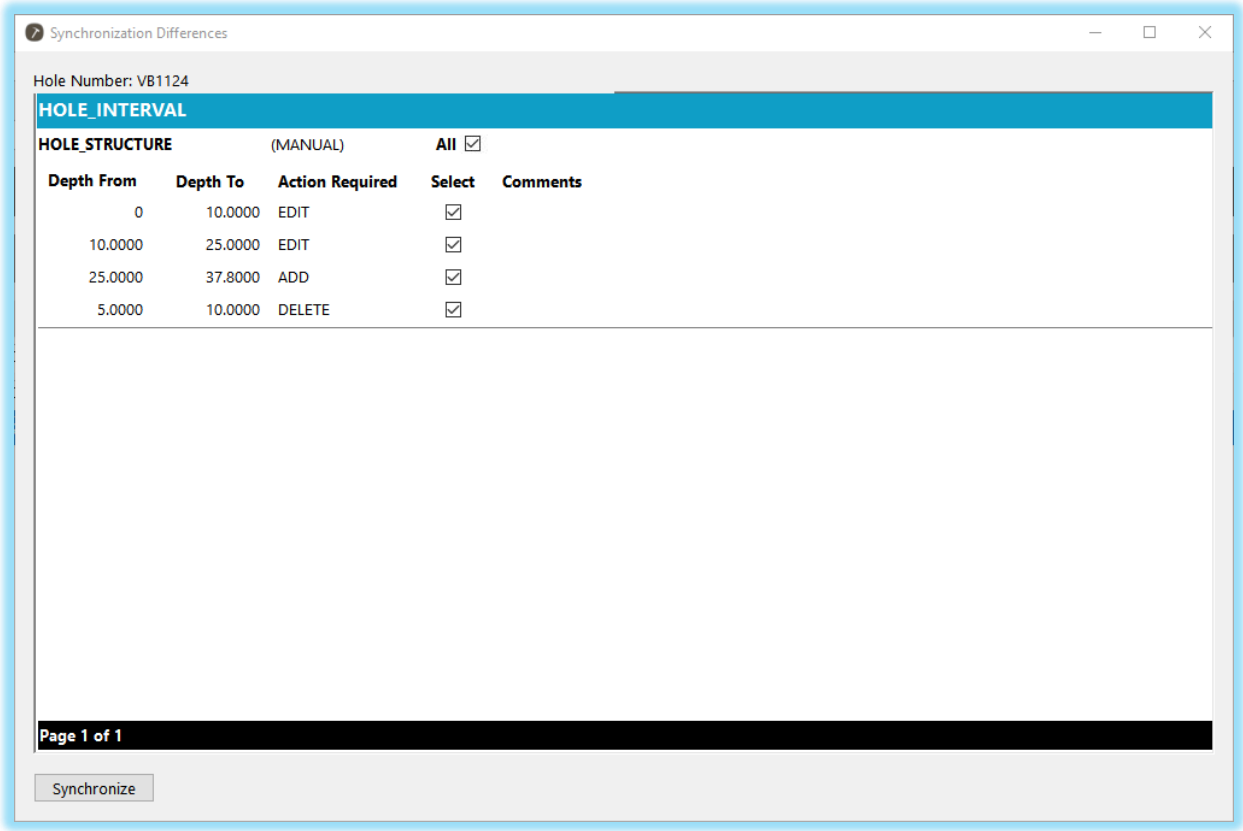
Administrators can configure links between a “source table” and one or more “dependent tables” that will maintain a synchronization between rows based on their depths.

This means that when rows are added, deleted or depths are modified in the source table, rows will be added, deleted or have depths modified in the dependent table.

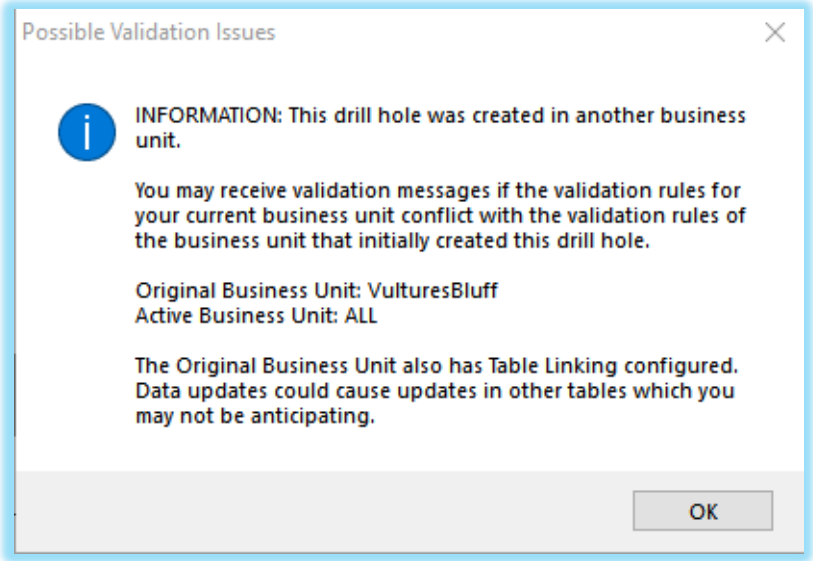
This synchronization can be Automatic, occurring when the changes are saved in the source table, or they can be Manual, requiring the geologist to open a synchronization window to view the differences and choose which updates to make in the dependent tables.

A report which will display any differences between the source and linked tables, whether the configurations are Automatic or Manual, can be accessed by selecting **Linked Table Synchronization** from the **Options menu list**.

From this report users can select which rows they would like synchronized and update the linked tables by hitting the ‘Synchronize’ button.



Since configurations may vary by business units, the hole's original business unit will define which table linking configuration to use. If a user's active business unit is different than the original business unit for the selected hole, the following message will be displayed informing them that table linking data updates could occur.

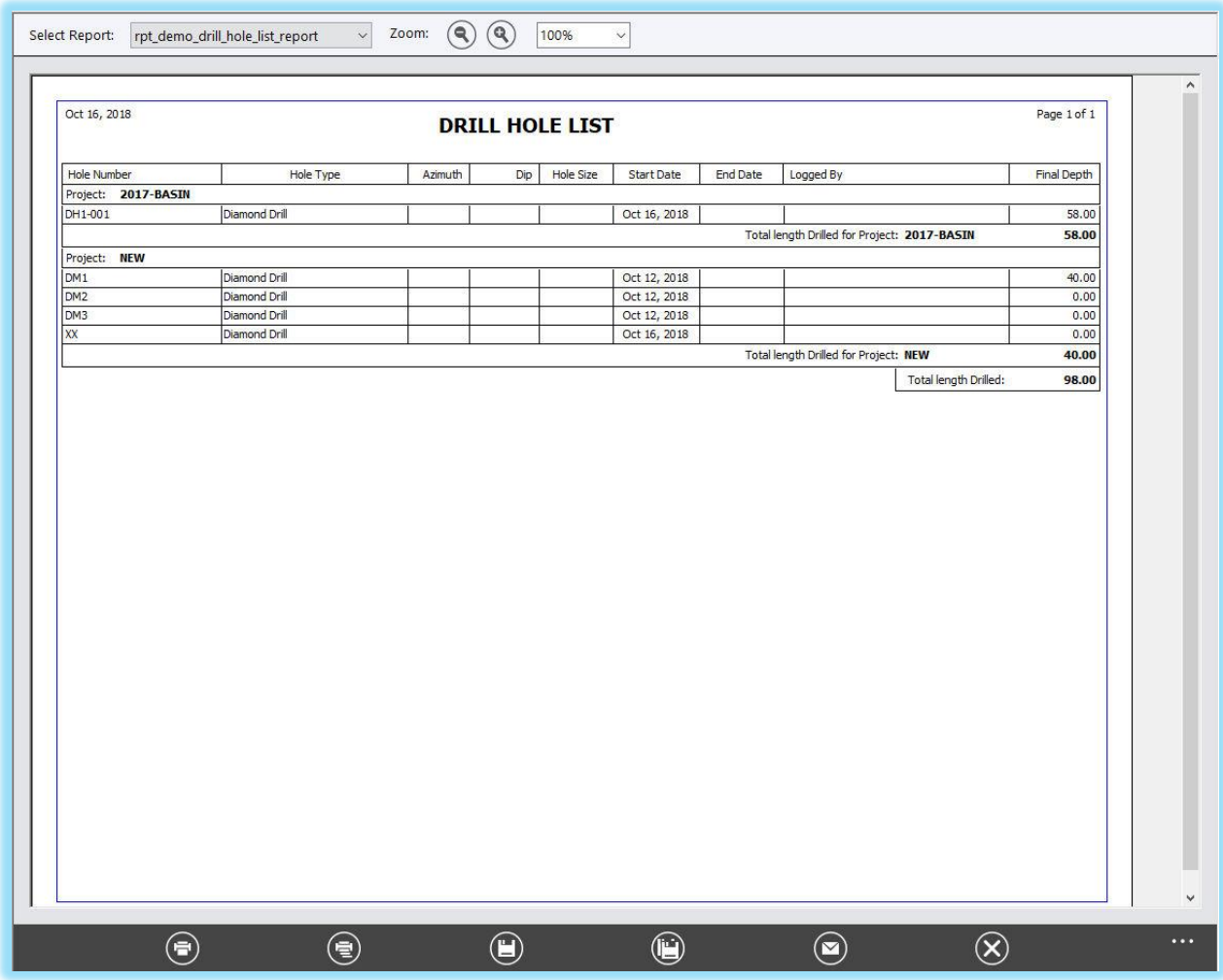


If a table is configured as a linked or dependent table that will be automatically synchronized, then additions, deletions and edits of depths will be disabled in DHLogger, and Drill Hole Import. Exceptions to this business rule is with the HOLE_ASSAY_SAMPLE table, where only INSERTs are ever synchronized. Deletions and edits of sample depths will always be the user's responsibility to maintain.

REPORTS AND VIEWING DATA

There are several generic reports that are included with the application that allow you to view, save and print Drill Hole data.

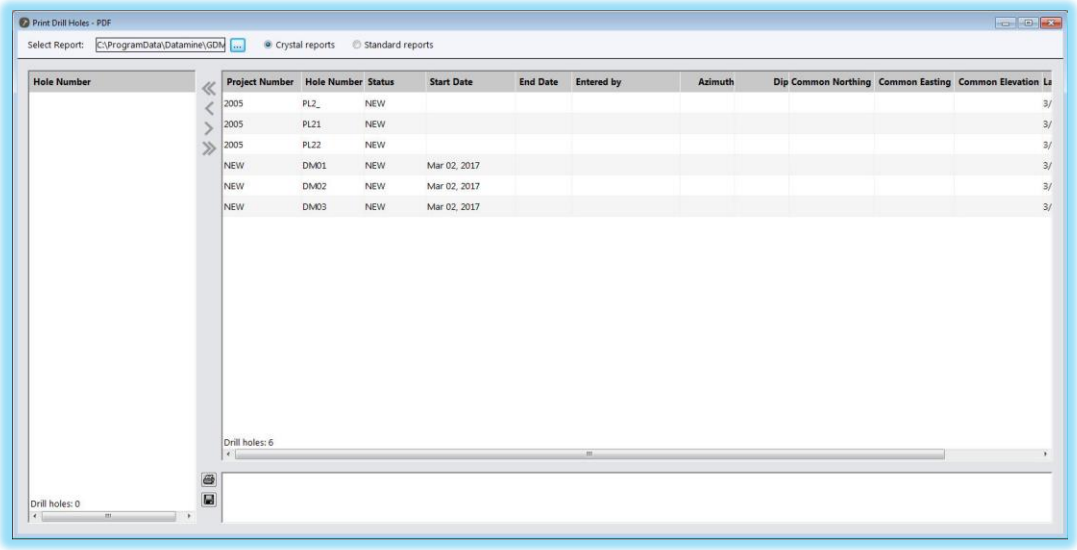
The Report Viewer is accessed by selecting **Reports** from the **Options menu list.**



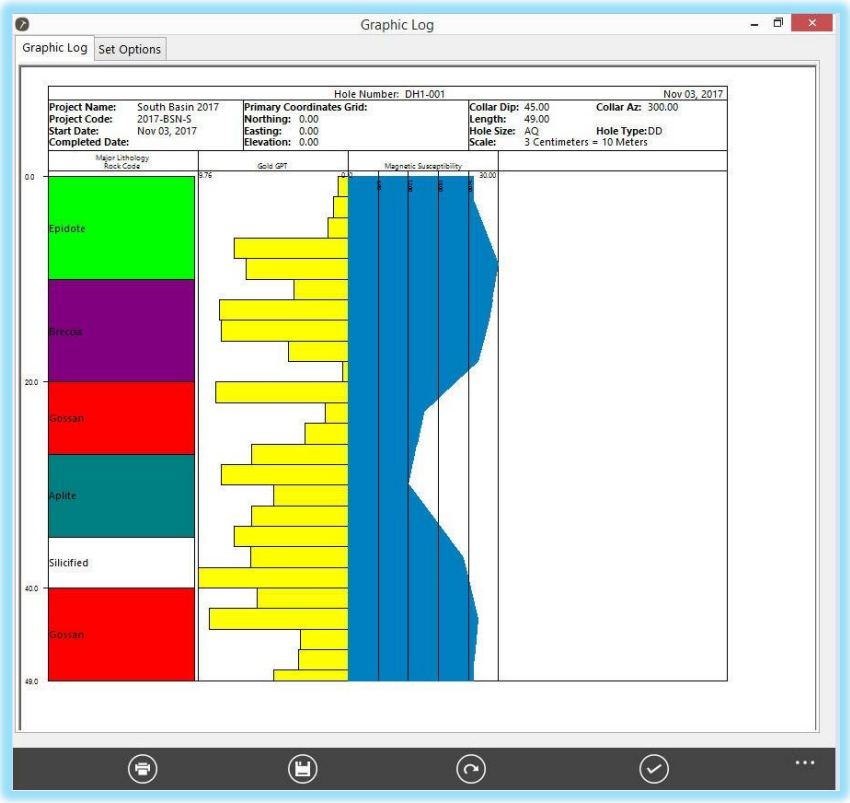
Hole Number	Hole Type	Azimuth	Dip	Hole Size	Start Date	End Date	Logged By	Final Depth
Project: **2017-BASIN**								
DH1-001	Diamond Drill				Oct 16, 2018			58.00
							Total length Drilled for Project: **2017-BASIN**	**58.00**
Project: **NEW**								
DM1	Diamond Drill				Oct 12, 2018			40.00
DM2	Diamond Drill				Oct 12, 2018			0.00
DM3	Diamond Drill				Oct 12, 2018			0.00
XX	Diamond Drill				Oct 16, 2018			0.00
							Total length Drilled for Project: **NEW**	**40.00**
							Total length Drilled:	**98.00**

From this window, you can select one of several generic reports from the picklist to report on the data in your database. Some reports are hole-specific and will require the input of a single hole number.

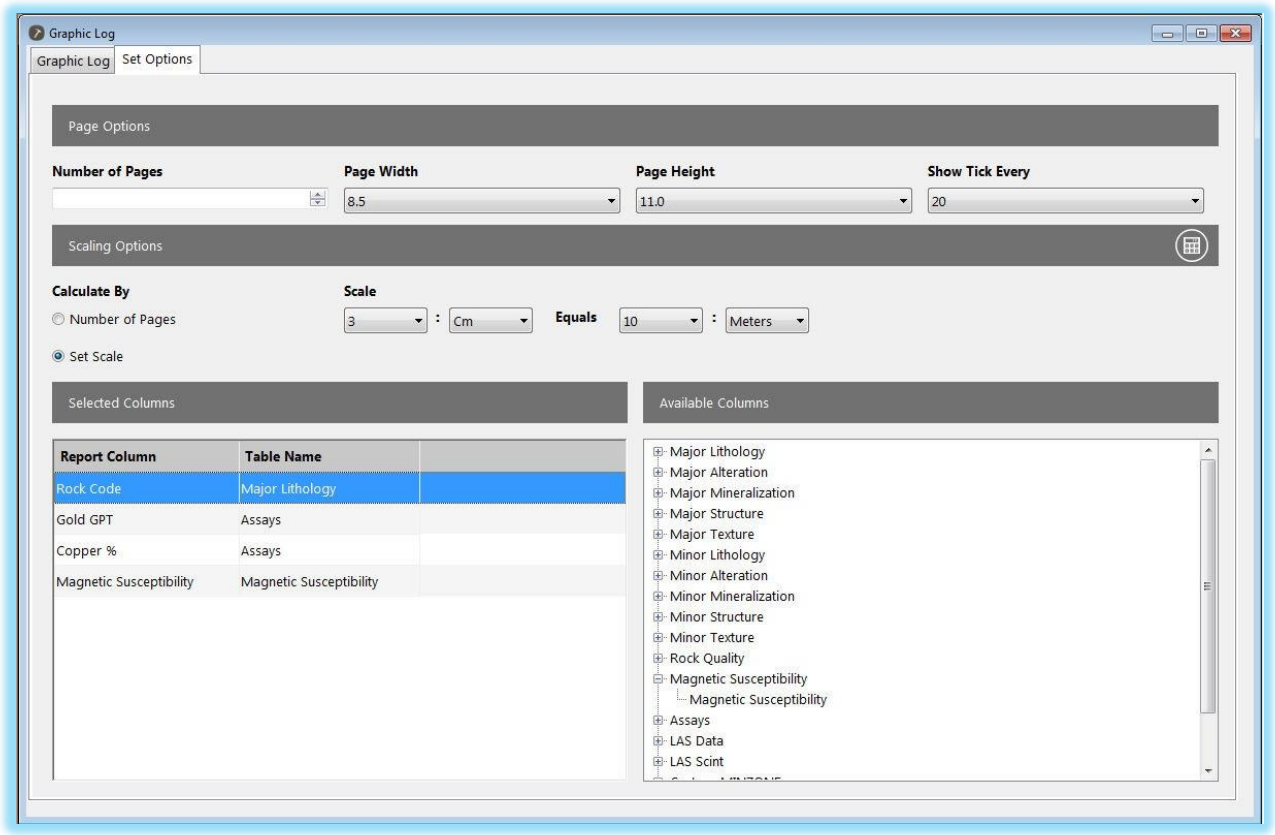
Additionally, there is the ability to select multiple holes to print or save as PDF (using the “Batch” toolbar buttons). From these windows, you also have the choice of selecting a standard report from a picklist, or to navigate and select a Crystal Report, of which we include a standard report.



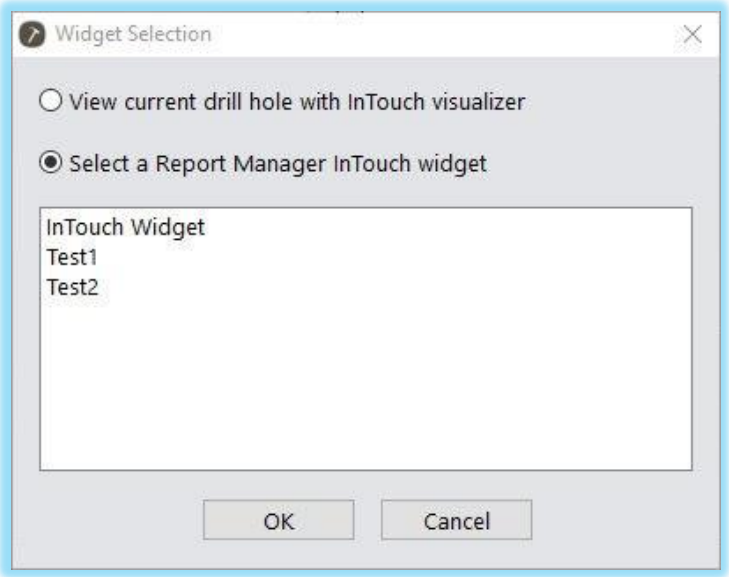
Another option to view drill hole data is with a customizable graphic log. This utility is accessible when the Drill Hole Folder is open, from the **Graphic Log** in the **Options menu list**.



This window shows some of the available configuration to create your own customized Graphic Log.



Still another option is to visualize the current hole, or several holes with the **InTouch Widget Viewer**, which is available from the **Options menu list**. This utility opens Report Manager to customize or run widgets created for In Touch.



DESURVEY DRILLHOLE

When tables that have been configured to store desurvey data are assigned to the user's logging style, a new menu item called **Desurvey Drillhole** appears in the **Options menu list.** This feature will perform a desurvey of the current hole, providing a coordinate exists and there is direction data, and it will store the output in the configured tables.

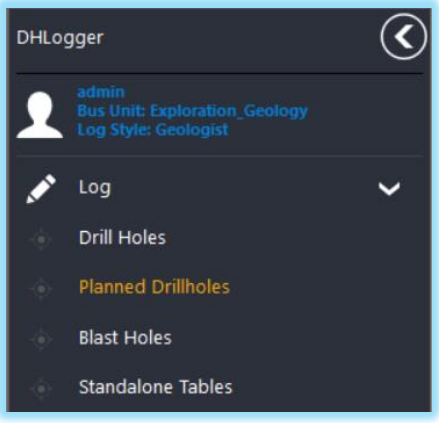
LOG: PLANNED DRILLHOLES

The Planned Drillholes module is used to generate drill hole setup information. Access to the Planned Drillholes module is limited by the user's logging style. The DHL_PLANNED_DRILLHOLES table must be granted to the logging style on the Logging Style Administration window in Fusion Administrator.

The Planned Drillholes module can be opened from the **Log > Planned Drillholes** menu.

The hole number field supports letters, numbers, space, and special characters except the following:

- Single quote '
- Double quote "
- Comma ,
- Semicolon ;
- Tilde ~
- At @
- Pound #

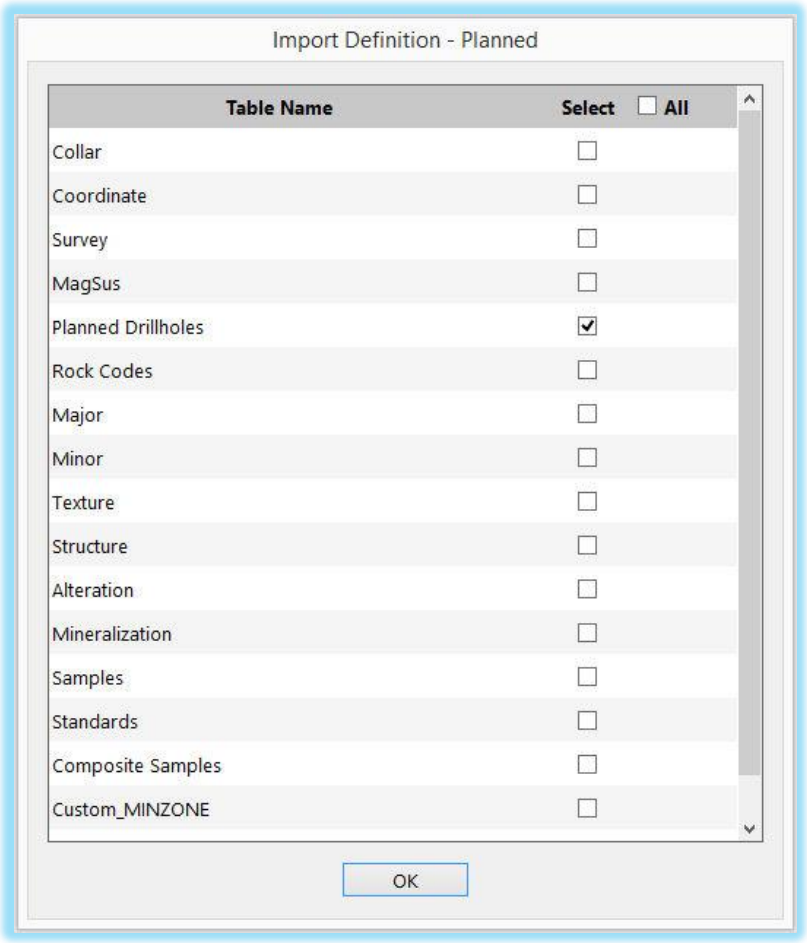


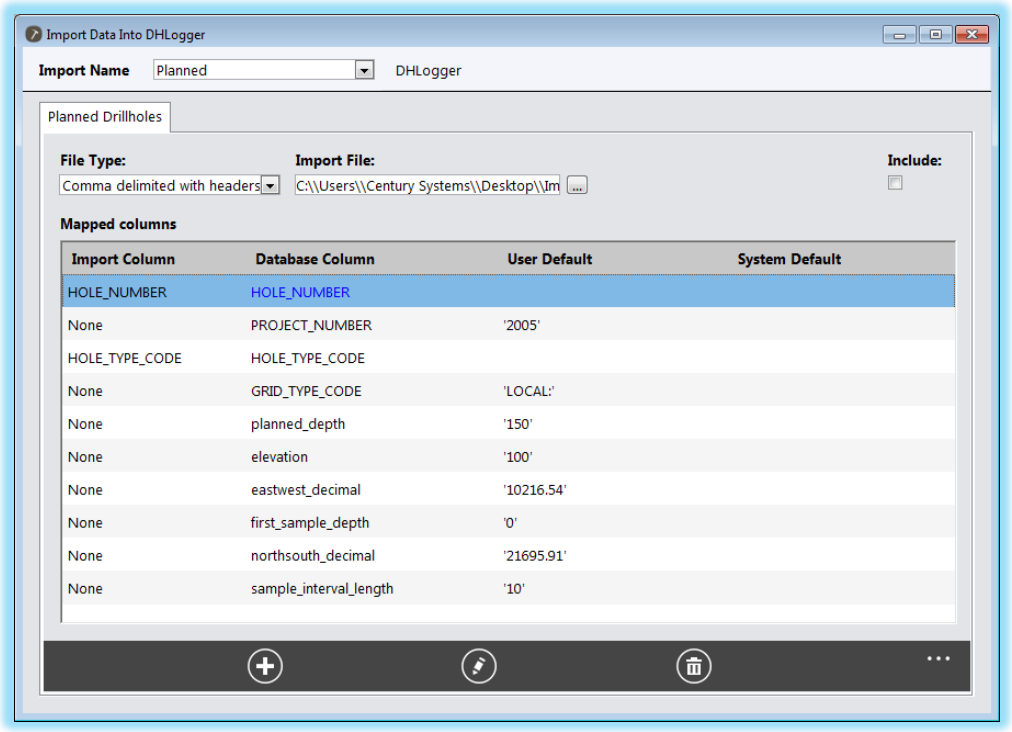
Planned drill holes can be imported through the Drill Hole Import or manually entered on the Planned Drillholes module.

IMPORTING PLANNED DRILLHOLES

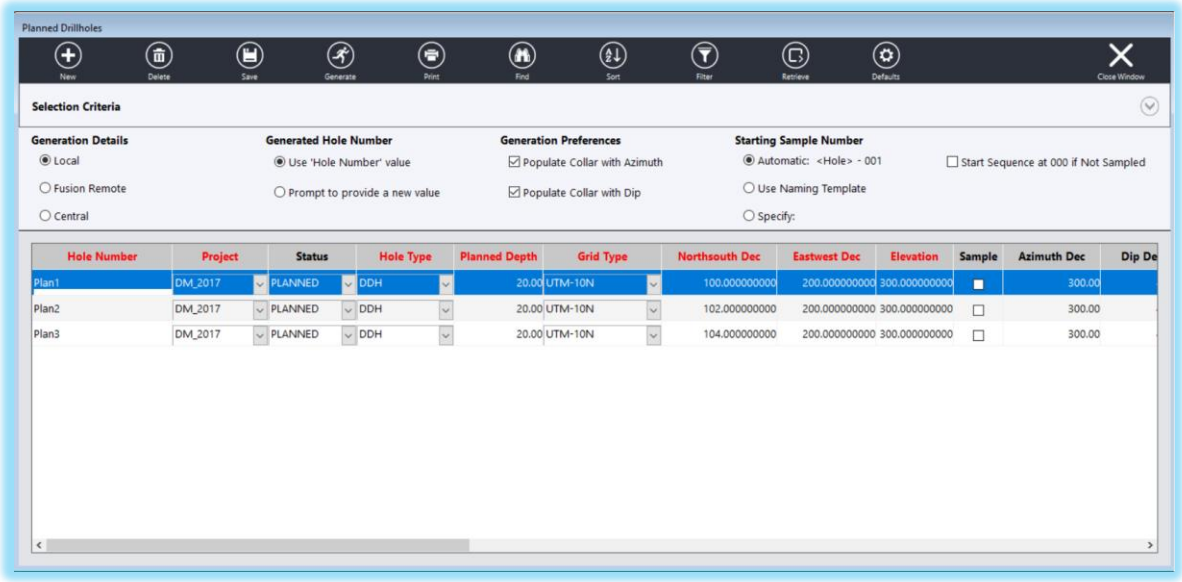
Planned Drillholes can be imported into DHLogger from a CSV or other compatible file using the Drill Hole Import tool. The import process is the same as for importing regular drill holes.

Open the Drill Hole Import module and add a new import profile. Provide an import name then select the Planned Drillholes table on the Import Definition popup.





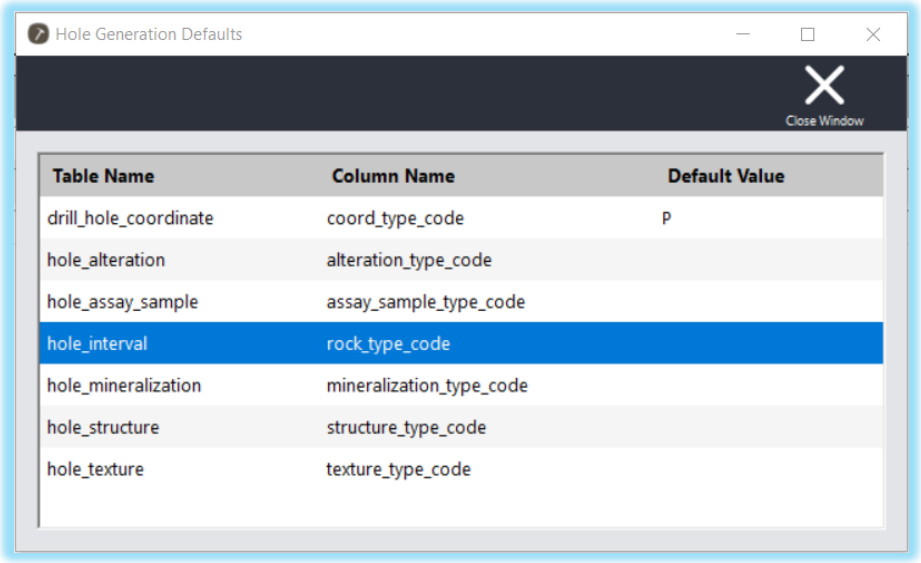
After this step, proceed normally as for any other Drill Hole related table. The users can choose a file and then map the columns in the file to the columns in the Planned Drill Holes table and provide System defaults. Once the import completes, the imported holes will appear in the Planned Drillholes window.



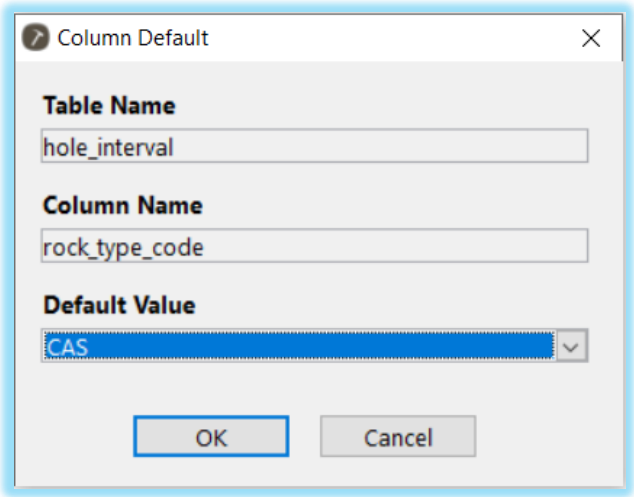
SETTING DEFAULTS

If the user has selected the Alteration, Samples, Lithology, Mineralization, Structure or Texture core tables in the Hole Type Generation settings, the default values must be set for some columns in these tables. This is required only if these tables are selected. This must be done because some fields in these tables cannot be empty. If these default values are not entered, but the tables are selected for generation, then the planned drill hole is not generated, and an error message is displayed to the user.

These default values can be entered by clicking on the “Defaults” button in the toolbar on the Planned Drill Holes Window.



Double clicking on a row will open another window that will display available values in a picklist.



GENERATING PLANNED DRILLHOLES

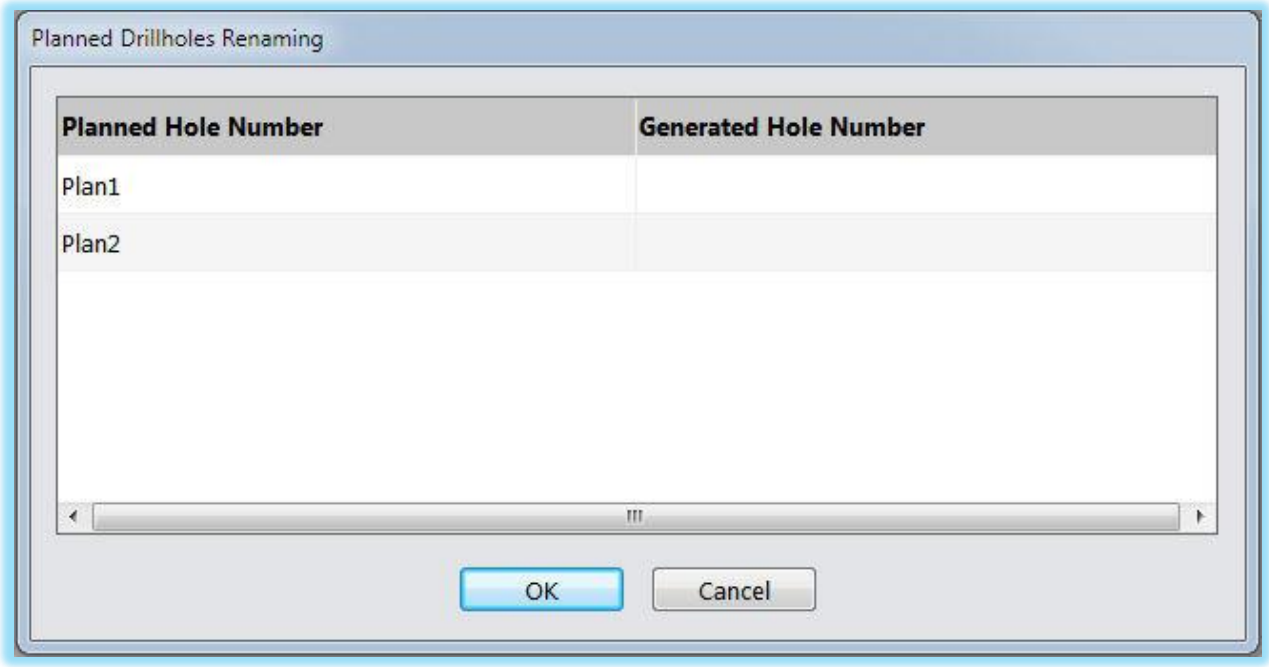
The planned drill holes can be generated by selecting the planned drill holes in the Planned Drill Holes window and then pressing the “Generate” button in the toolbar.

When a planned drill hole is generated, a new drill hole is created in the Drill_Hole table with a status of “NEW” (if it is generated in the Local database) or “CHECKEDIN” (if generated in the Fusion Remote or Central database). The collar is created automatically for the drill hole. But the user can choose which other tables to populate for that drill hole. The user can also choose whether to have the samples created for the Drill Hole.

When generating drill holes, the user has options for the Generated Hole Number, Generation Preferences, and the Starting Sample Number.

The hole number that is used for the actual drill hole can be either the Hole Number that was designated when the planned drillhole record was created (**Use 'Hole Number' value**) or it can be supplied when the user clicks generate (**Prompt to provide a new value**).

If the user has chosen to be prompted, after clicking the Generate button in the toolbar, a window will appear to provide the new hole numbers. Leaving the “Generated Hole Number” blank will default to the “Planned Hole Number” for those rows, however specifying at least one Generated Hole Number will be required to use this option.



During the generation of the collar record for the drillhole, options exist for whether the Azimuth and Dip values will be copied into the new drillhole or whether the values will be left empty: **Populate Collar with Azimuth** and **Populate Collar with Dip**.

The starting sample, if samples are going to be generated for the drillhole, can be defined using one of three methods:

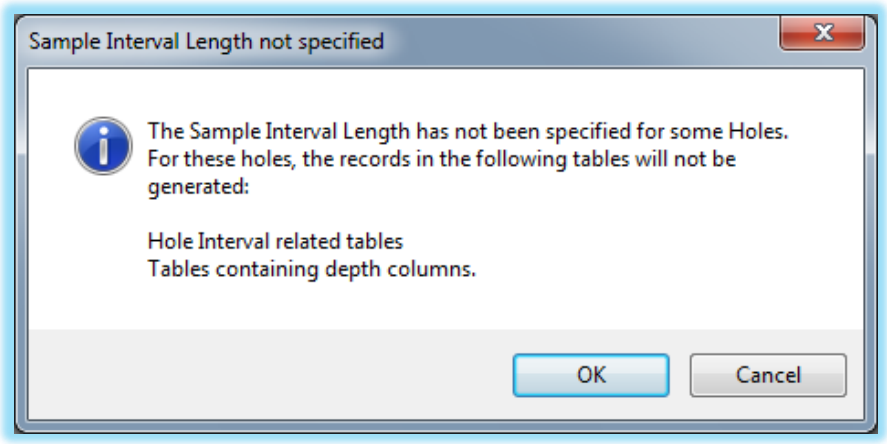
Automatic Will use the HoleNumber as a prefix and "-001" as the first sample. However, if the first sample does not begin at depth 0 (ie. it is not sampled), it is possible to create the first 'not sampled' sample number as HoleNumber-000.

Using Naming Template It is possible to define a sample naming template for Planned Drillhole samples. This configuration of a template is performed in Fusion Administrator.

Specify Selecting this option, enables an edit field that allows the user to enter the first sample number. If it ends in a numeric value, then the next sample can be incremented; if it does not, the next sample will have "-001" appended to it.

The tables to be generated for the planned drillhole are defined in the Hole Type Generation reference table in Fusion Administrator.

NOTE: If an interval related table or a table containing depths is configured to be generated with the planned drillhole, the Sample Interval Length column must be specified otherwise those tables will not be generated.

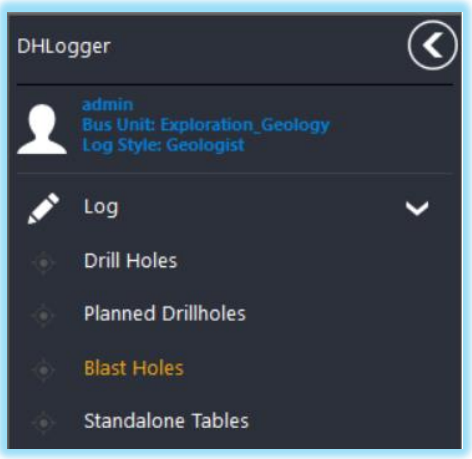


Linked Table Synchronization can impact the data that is generated for a planned drillhole. If one of the tables that is configured under 'Hole Type Generation' in Fusion Administrator is a source table in Table Linking Configuration, then the linked tables that are configured for Automatic synchronization will also have rows inserted during the Planned Drillhole Generation.

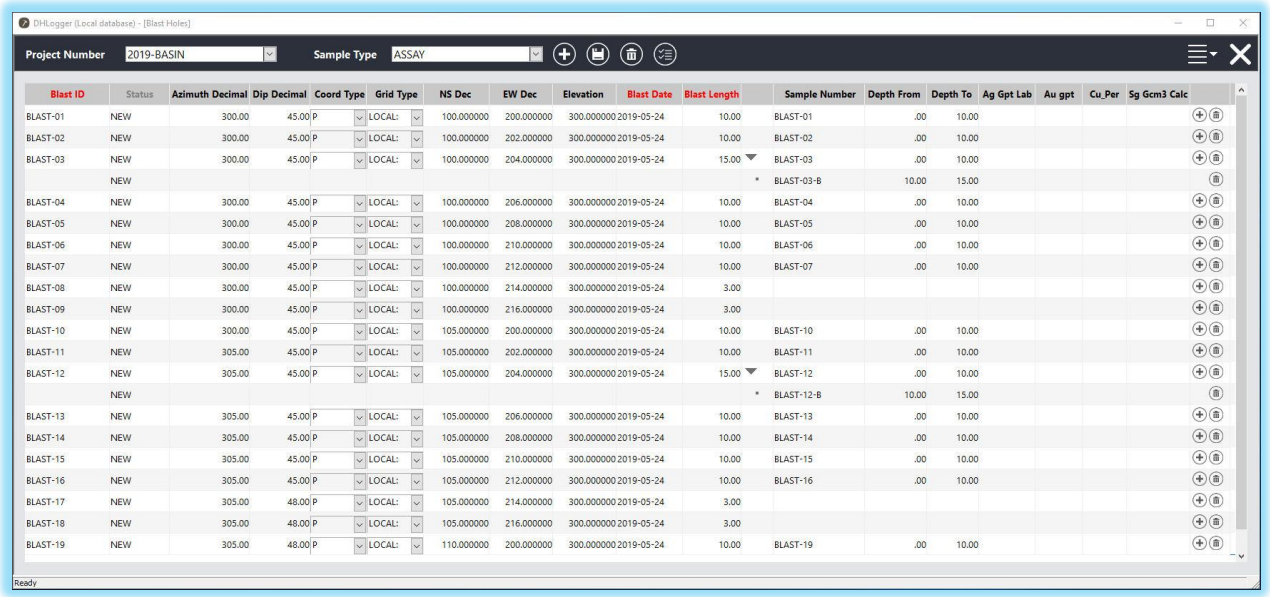
LOG: BLAST HOLE

The Blast Hole module is used to log quick, short blast holes. Information logged includes Azimuth, Dip, a coordinate, some custom data, and perhaps one or two samples. Access to the Blast Hole module is limited by the user's logging style. The Blast Hole module must be selected to "Show" in the Logging Style Administration window in Fusion Administrator.

The Blast Hole module can be opened from the **Log > Blast Holes** menu.



NOTE: DHLogger must be connected to the Local Database to be able to access this module.



Blast ID	Status	Azimuth Decimal	Dip Decimal	Coord Type	Grid Type	NS Dec	EW Dec	Elevation	Blast Date	Blast Length	Sample Number	Depth From	Depth To	Ag Gpt Lab	Au gpt	Cu_Per	Sg Gcm3 Calc
BLAST-01	NEW	300.00	45.00	P	LOCAL:	100.000000	200.000000	300.000000	2019-05-24	10.00	BLAST-01	.00	10.00				
BLAST-02	NEW	300.00	45.00	P	LOCAL:	100.000000	202.000000	300.000000	2019-05-24	10.00	BLAST-02	.00	10.00				
BLAST-03	NEW	300.00	45.00	P	LOCAL:	100.000000	204.000000	300.000000	2019-05-24	15.00	BLAST-03	.00	10.00				
	NEW										BLAST-03-B	10.00	15.00				
BLAST-04	NEW	300.00	45.00	P	LOCAL:	100.000000	206.000000	300.000000	2019-05-24	10.00	BLAST-04	.00	10.00				
BLAST-05	NEW	300.00	45.00	P	LOCAL:	100.000000	208.000000	300.000000	2019-05-24	10.00	BLAST-05	.00	10.00				
BLAST-06	NEW	300.00	45.00	P	LOCAL:	100.000000	210.000000	300.000000	2019-05-24	10.00	BLAST-06	.00	10.00				
BLAST-07	NEW	300.00	45.00	P	LOCAL:	100.000000	212.000000	300.000000	2019-05-24	10.00	BLAST-07	.00	10.00				
BLAST-08	NEW	300.00	45.00	P	LOCAL:	100.000000	214.000000	300.000000	2019-05-24	3.00							
BLAST-09	NEW	300.00	45.00	P	LOCAL:	100.000000	216.000000	300.000000	2019-05-24	3.00							
BLAST-10	NEW	300.00	45.00	P	LOCAL:	105.000000	200.000000	300.000000	2019-05-24	10.00	BLAST-10	.00	10.00				
BLAST-11	NEW	305.00	45.00	P	LOCAL:	105.000000	202.000000	300.000000	2019-05-24	10.00	BLAST-11	.00	10.00				
BLAST-12	NEW	305.00	45.00	P	LOCAL:	105.000000	204.000000	300.000000	2019-05-24	15.00	BLAST-12	.00	10.00				
	NEW										BLAST-12-B	10.00	15.00				
BLAST-13	NEW	305.00	45.00	P	LOCAL:	105.000000	206.000000	300.000000	2019-05-24	10.00	BLAST-13	.00	10.00				
BLAST-14	NEW	305.00	45.00	P	LOCAL:	105.000000	208.000000	300.000000	2019-05-24	10.00	BLAST-14	.00	10.00				
BLAST-15	NEW	305.00	45.00	P	LOCAL:	105.000000	210.000000	300.000000	2019-05-24	10.00	BLAST-15	.00	10.00				
BLAST-16	NEW	305.00	45.00	P	LOCAL:	105.000000	212.000000	300.000000	2019-05-24	10.00	BLAST-16	.00	10.00				
BLAST-17	NEW	305.00	48.00	P	LOCAL:	105.000000	214.000000	300.000000	2019-05-24	3.00							
BLAST-18	NEW	305.00	48.00	P	LOCAL:	105.000000	216.000000	300.000000	2019-05-24	3.00							
BLAST-19	NEW	305.00	48.00	P	LOCAL:	110.000000	200.000000	300.000000	2019-05-24	10.00	BLAST-19	.00	10.00				

While data is entered in one list, it is separated and stored across four tables.

Drill Hole

- Blast ID: mandatory; this is the hole number
- Azimuth Decimal: optional
- Dip Decimal: optional

Hole Type: mandatory, not visible or editable, it is defaulted to 'BLAST'

Drill Hole Coordinate

- Coordinate Type
- Grid Type
- Northsouth Decimal
- Eastwest Decimal
- Elevation

While it is not mandatory to enter a coordinate for the Blast Hole, if any of these fields contain data, they all must contain data

DHL Blast Hole

- Blast Date: mandatory; defaulted to the current date
- Blast Length: mandatory

User-customized fields are created in this table, and can be made required if desired

Hole Assay Sample

- Sample Number
- Depth From
- Depth To

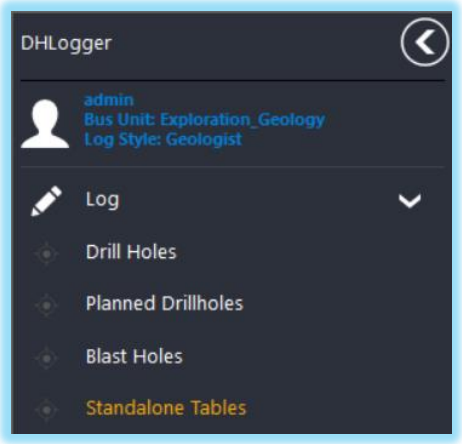
While it is not mandatory to enter a sample for the Blast Hole, if any of these fields contain data, they all must contain data

System / Business Unit Preferences can control whether multiple samples are allowed in a Blast Hole, and whether a sample is created automatically when a Blast Hole is created (defaulting the From/To to 0 and the Blast Length)

LOG: STANDALONE TABLES

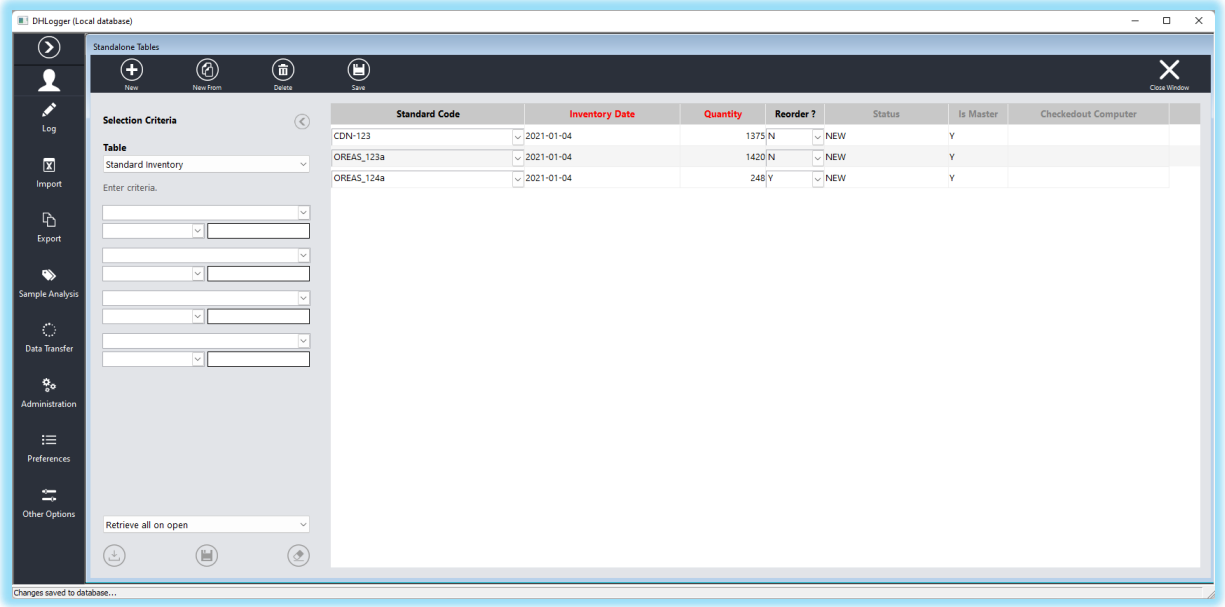
The Standalone Tables module is available to users for data entry into tables that are not related to Drill Holes or Surface Samples -- these are “Standalone” tables.

The Standalone Tables module can be opened from the **Log > Standalone Tables** menu.

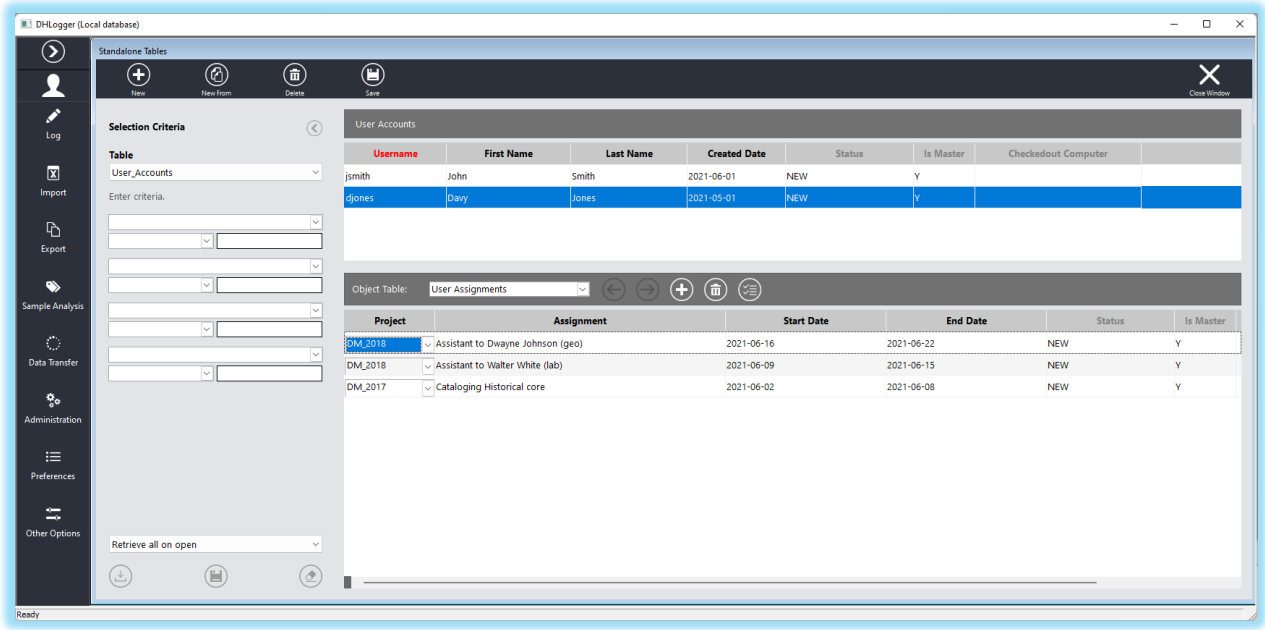


The Selection Criteria section is used to select the Table or Group and specify filters, if necessary, on the data being retrieved.

Only the tables that are assigned to the users logging style will be available for selection.



Standalone Tables window – Table selected



Standalone Tables window – Group selected

Data is entered, edited and deleted in the windows directly, using the New, New From, Delete and Save buttons. The behaviour of the copying of child data (Always, Never, Prompt) can be configured in the User Preferences window.

NOTE: when a parent row is copied the unique column(s) will need to be edited before a save can be completed. Samples will not be copied to the new row as they must be unique in the database.

When a Group has been selected, the top window displays the Parent table, and the bottom window displays the Child tables.

The Object Table picklist displays the child tables assigned in the Group, and only those tables that have been assigned to the user's Logging Style.

There are buttons for navigating tables (also use ALT + P, ALT + N) which may be disabled if only one child table exists, adding data (also use CTRL + SHIFT + N), deleting data (CTRL + SHIFT + D), and multiple row selection with checkboxes.

LOGGING MODULAR SAMPLES

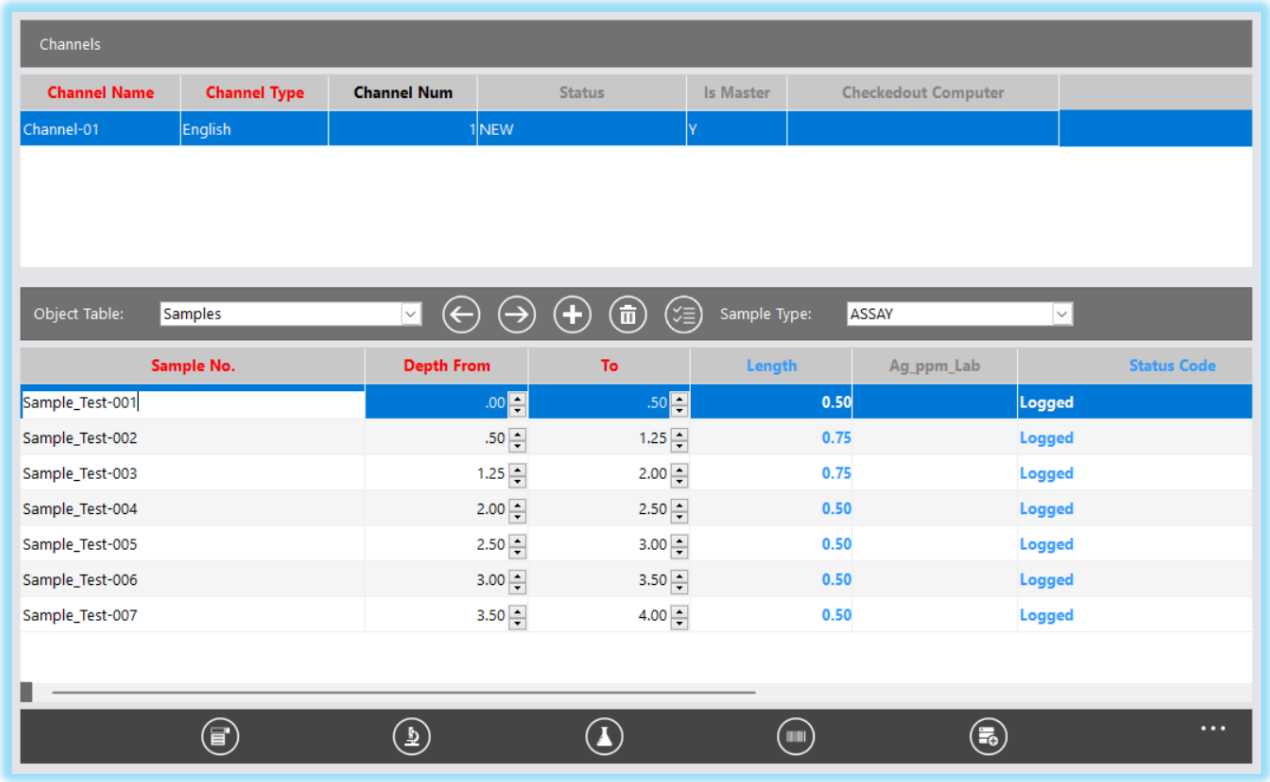
Samples can be logged against parent row if modular_samples table has been assigned to that group. Modular samples can be logged by selecting parent row and "Samples" option from the "Object Table" picklist. The **Sample Number** field supports letters, numbers, space, and special characters except the following:

- Single quote '
- Double quote "
- Comma ,
- Semicolon ;
- Tilde ~

- At @
- Pound #

You can also choose from a list of **Sample Type** codes that have been assigned to the active logging style. Depths for the samples can be visible or hidden depending upon the configuration set for the Modular Samples table for the group.

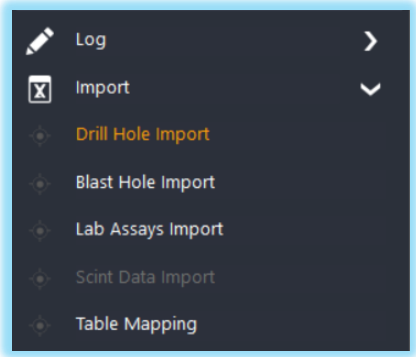
This module also allows you to generate samples, log QC Samples, add modular standards, print sample tags, and add samples to a dispatch. These options are available on the toolbar displayed at the bottom of this window.



Standalone Tables window – Modular Samples selected

IMPORT: DRILL HOLE IMPORT

The drill hole import utility is used to import drill hole data from a comma or tab delimited file into DHLogger.



Open the Drill Hole Import by clicking the **Import > Drill Hole Import** menu.

To create a new import, use the New button and enter an Import Name in the window that opens.

To remove an import, use the Delete button while you have the import selected in the dropdown.

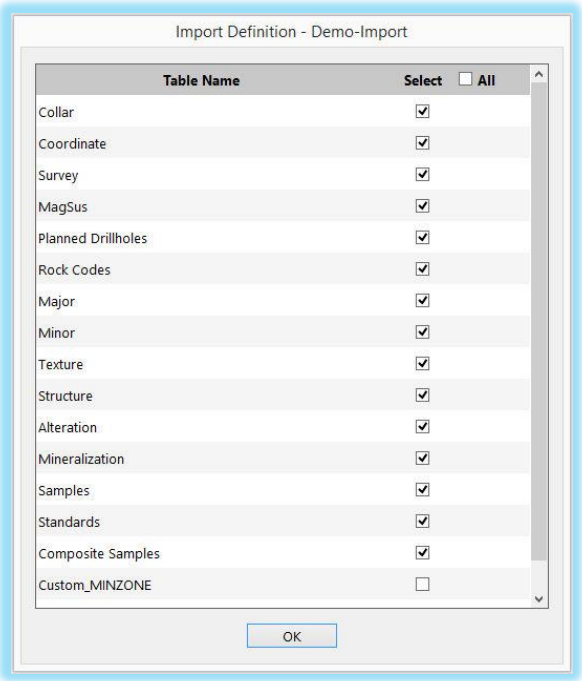
Once an import is defined and columns are mapped, the data can be imported. Using the Run button will execute the currently selected tab of the import.

Once an import is defined and columns are mapped, the data can be imported. Using the Run Selected button will execute each of the tabs in the import, starting with the first, providing they have the “Include” checkbox enabled.

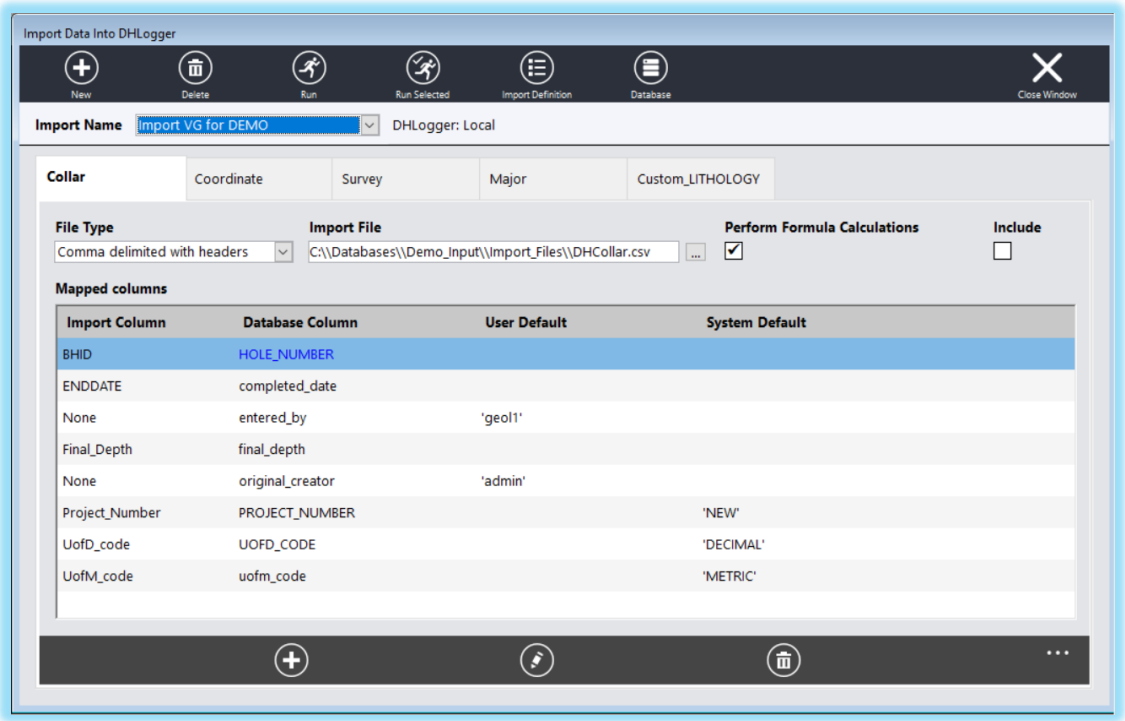
If an import schema needs to be modified, for example to add another table, click the Import Definition button to open the Import Definition window for editing.

Data is usually imported into the Local database, which is the default location. However, data can also be imported directly to the Central or Fusion Remote databases. To change the destination, click the Database button.

When creating a New import, or when opening the Definition, you will be prompted to select the tables to include on the import.



NOTE: The available tables will change depending on the logging style and the destination database.



Import module window with completed mappings

Import module window

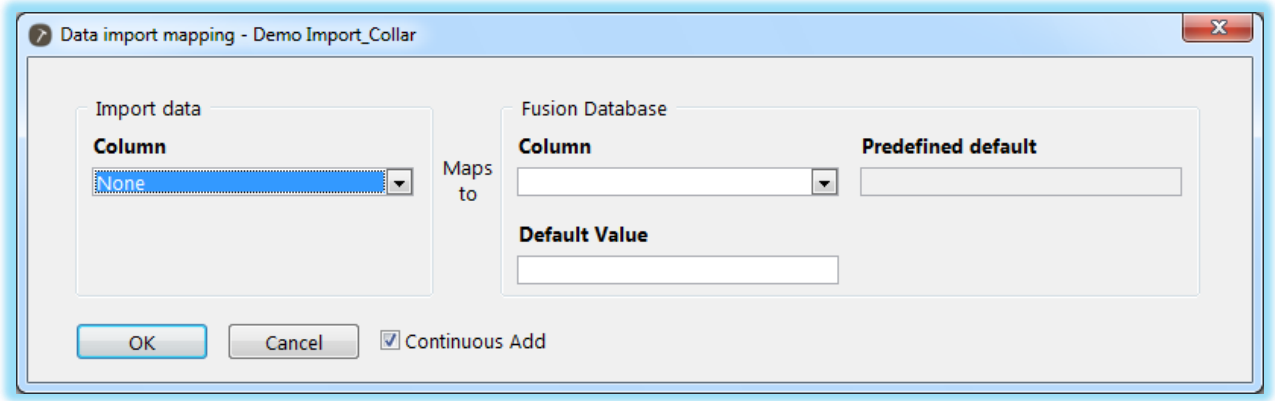
- **Import Name:** selected from picklist, or populated with newly created import name.

On each tab:

- **File Type:** the type of file being imported. It must be chosen from the picklist. The 6 available types are:
  - Tab Delimited (with or without headers)
  - Comma Delimited (with or without headers)
  - MS Access. Specifying this file type will also require a source table to be chosen
  - Datamine File (.dm)
- **Import File:** the path and file name of the import file. It can be typed directly or selected with the Browse button (ellipsis). Only files with the same extension specified under File Type will be displayed.
- **Perform Formula Calculations:** checkbox to identify if all columns with formulas will be calculated after data is imported to the table
- **Include:** checkbox to identify if this individual import should be executed if "Run All" is clicked.
- **Mapped Columns:** a list of the column mappings for the import.

Default column mappings will be added based on the selected tab. Required columns will appear in blue and must have a mapping or default defined. Additional column mappings can be added by clicking the New button.

Column mappings can be edited by selecting a mapping and clicking the Edit button or by double clicking on the row in the Mapped columns section.



Import Data

- **Column:** A list of columns from the source import file

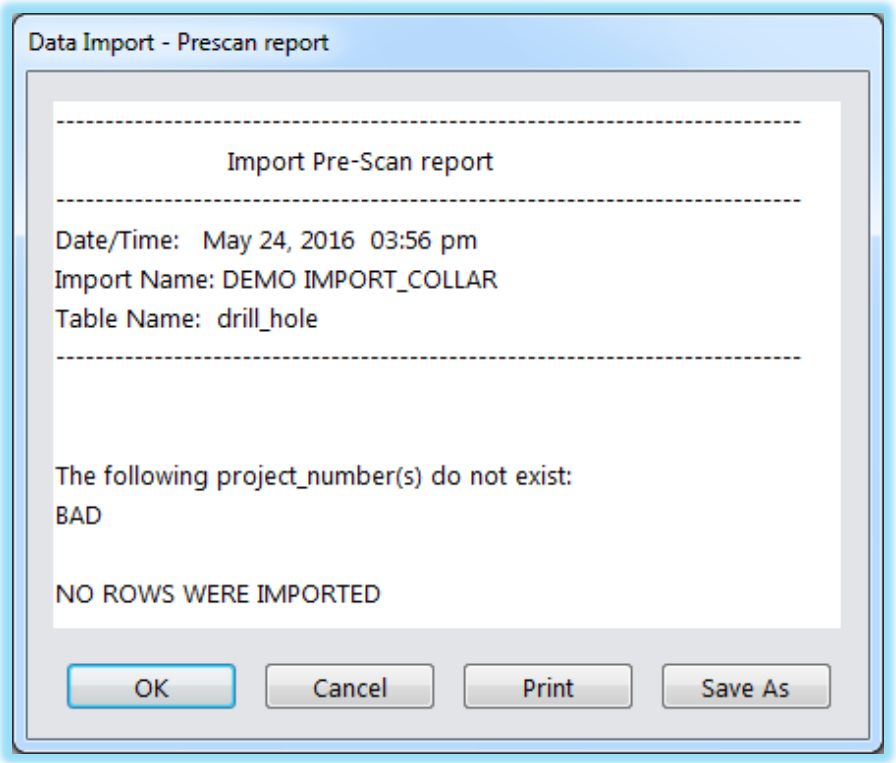
Fusion Database

- **Column:** A list of available columns for the selected table.
- **Predefined default:** The value that will be entered in this column if an empty value is encountered in the import file. This is a system default and can't be changed. It will be overridden if a Default Value is specified.
- **Default Value:** The value that will be entered in this column if an empty value is encountered in the import file.

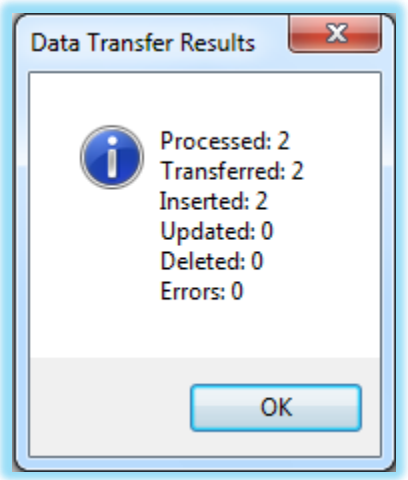
Once columns have been mapped, the file can be imported. Start the import by clicking the Run currently selected import button.

If you wish to import multiple files at once, click the Run Selected imports for this session button. This will import all tabs that have the Include checkbox checked for the currently selected import.

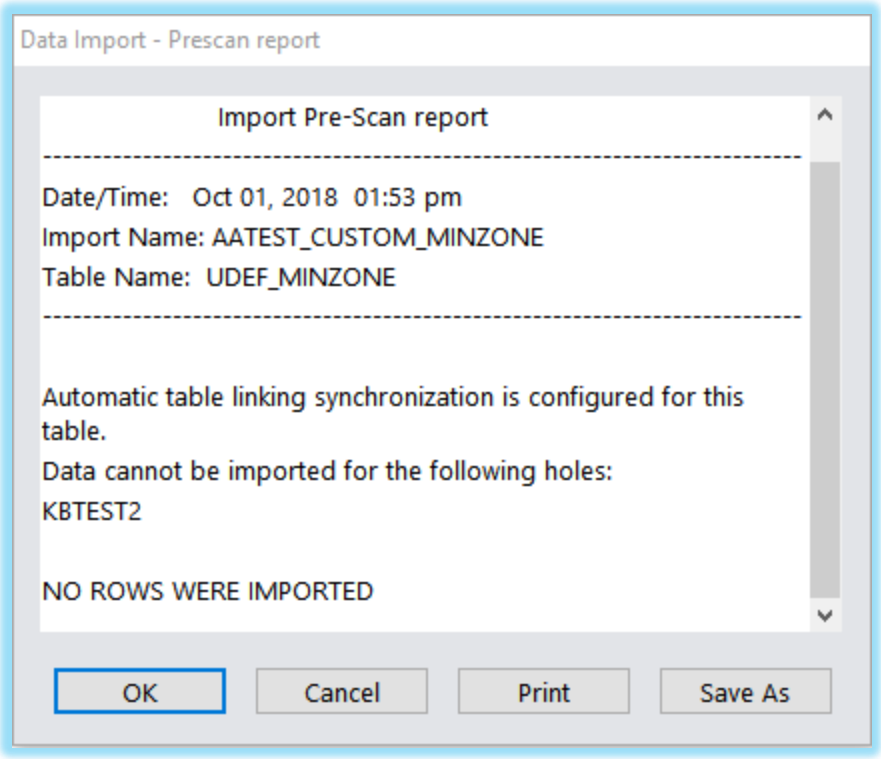
During the import, DHLogger will scan the file and identify any validation issues or problems with the file and import definitions in a Pre-scan report. Any problems listed within the report must be corrected before the import can be performed.



A Data Transfer Results window will appear once the import task is completed. It contains a general summary of the import procedure.



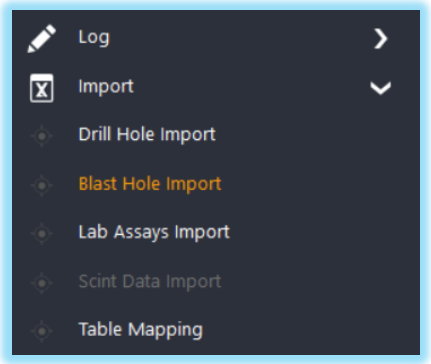
The configuration of Table Linking could have an impact on the data that is permitted to be imported. Only source tables or non-linked tables are available for import. If the source table is HOLE_INTERVAL, only Major interval data will be sent to the destination tables. During import, the original business unit for each hole will be used to check whether the table is configured as a linked table set to be automatically synchronized; if it is, the import is halted for that table, with a message like the following:



IMPORT: BLAST HOLE IMPORT

The blast hole import utility is used to import blast hole data from a comma or tab delimited file into DHLogger.

Open the Blast Hole Import by clicking the **Import > Blast Hole Import** menu.

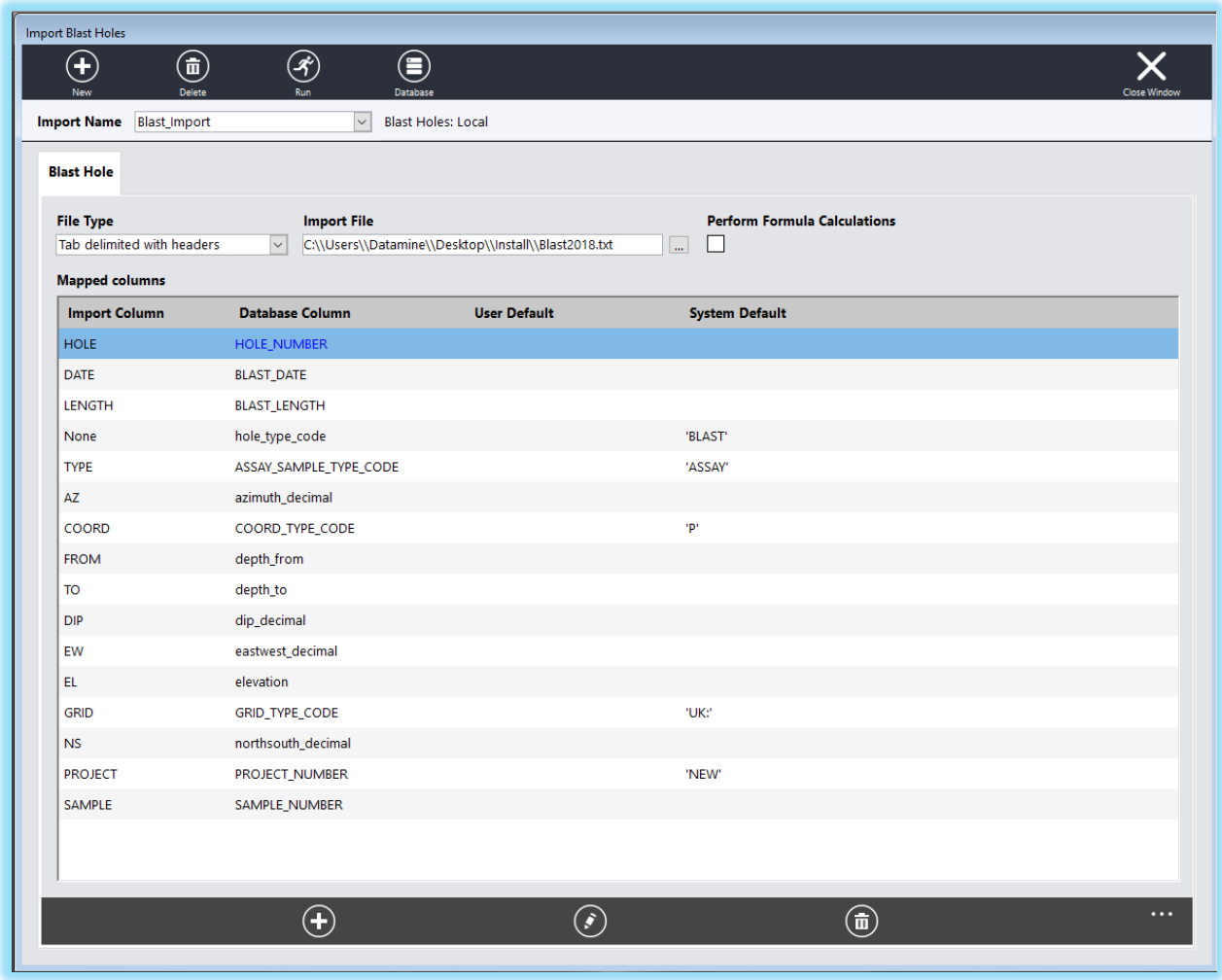


To create a new import, use the New button and enter an Import Name in the window that opens.

To remove an import, use the Delete button while you have the import selected in the dropdown.

Once an import is defined and columns are mapped, the data can be imported. Using the Run button will execute the import.

Data is usually imported into the Local database, which is the default location. However, data can also be imported directly to the Central or Fusion Remote databases. To change the destination, click the Database button.



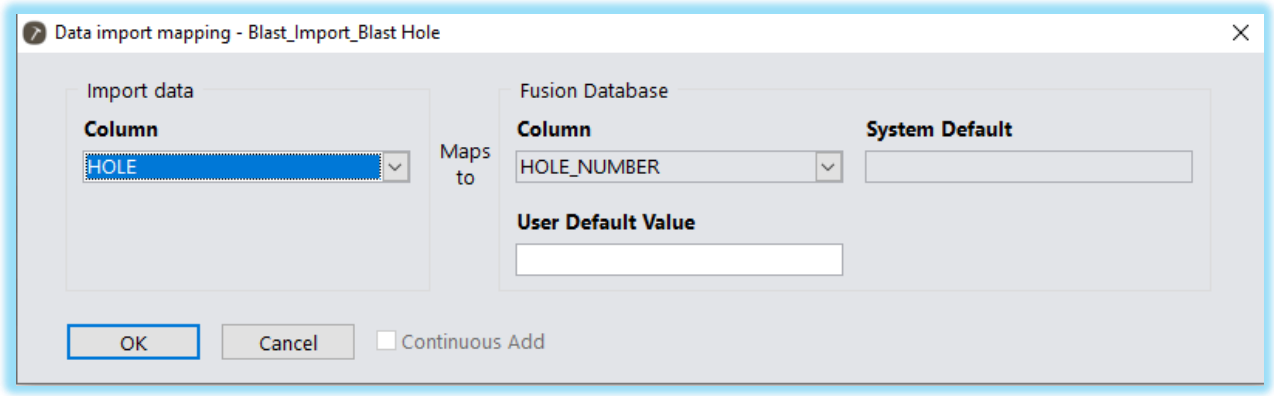
Blast Hole Import module window with completed mappings

Import module window

- **Import Name:** selected from picklist, or populated with newly created import name.
  File Type: the type of file being imported. It must be chosen from the picklist. The 6 available types are:
  - Tab Delimited (with or without headers)
  - Comma Delimited (with or without headers)
  - MS Access. Specifying this file type requires a source table to be chosen
  - Datamine File (.dm)
- **Import File:** the path and file name of the import file. It can be typed directly or selected with the Browse button (ellipsis). Only files with the same extension specified under File Type will be displayed.
- **Perform Formula Calculations:** checkbox to identify if all columns with formulas will be calculated after data is imported to the table
- **Mapped Columns:** a list of the column mappings for the import.

Default column mappings will be added based on the selected tab. Required columns will appear in blue and must have a mapping or default defined. Additional column mappings can be added by clicking the New button.

Column mappings can be edited by selecting a mapping and clicking the Edit button or by double clicking on the row in the Mapped columns section.



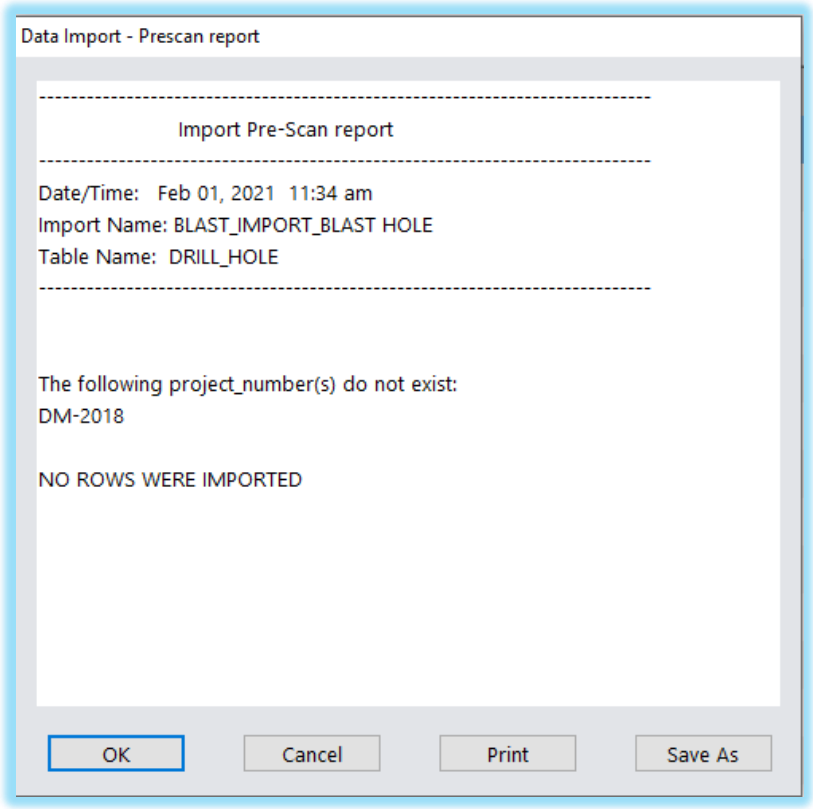
Import Data

- **Column:** A list of columns from the source import file

Fusion Database

- **Column:** A list of available columns for the selected table.
- **Predefined default:** The value that will be entered in this column if an empty value is encountered in the import file. This is a system default and can't be changed. It will be overridden if a Default Value is specified.
- **Default Value:** The value that will be entered in this column if an empty value is encountered in the import file.

During the import, DHLogger will scan the file and identify any validation issues or problems with the file and import definitions in a Pre-scan report. Any problems listed within the report must be corrected before the import can be performed.



A Data Transfer Results window will appear once the import task is completed. It contains a general summary of the import procedure.

IMPORT: LAB ASSAYS IMPORT

The lab import utility is used to import laboratory results in a comma or tab delimited format into DHLogger.

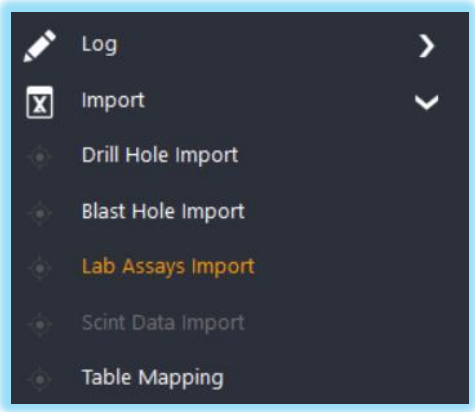
Using this module will require pre-configuration in Fusion Administration:

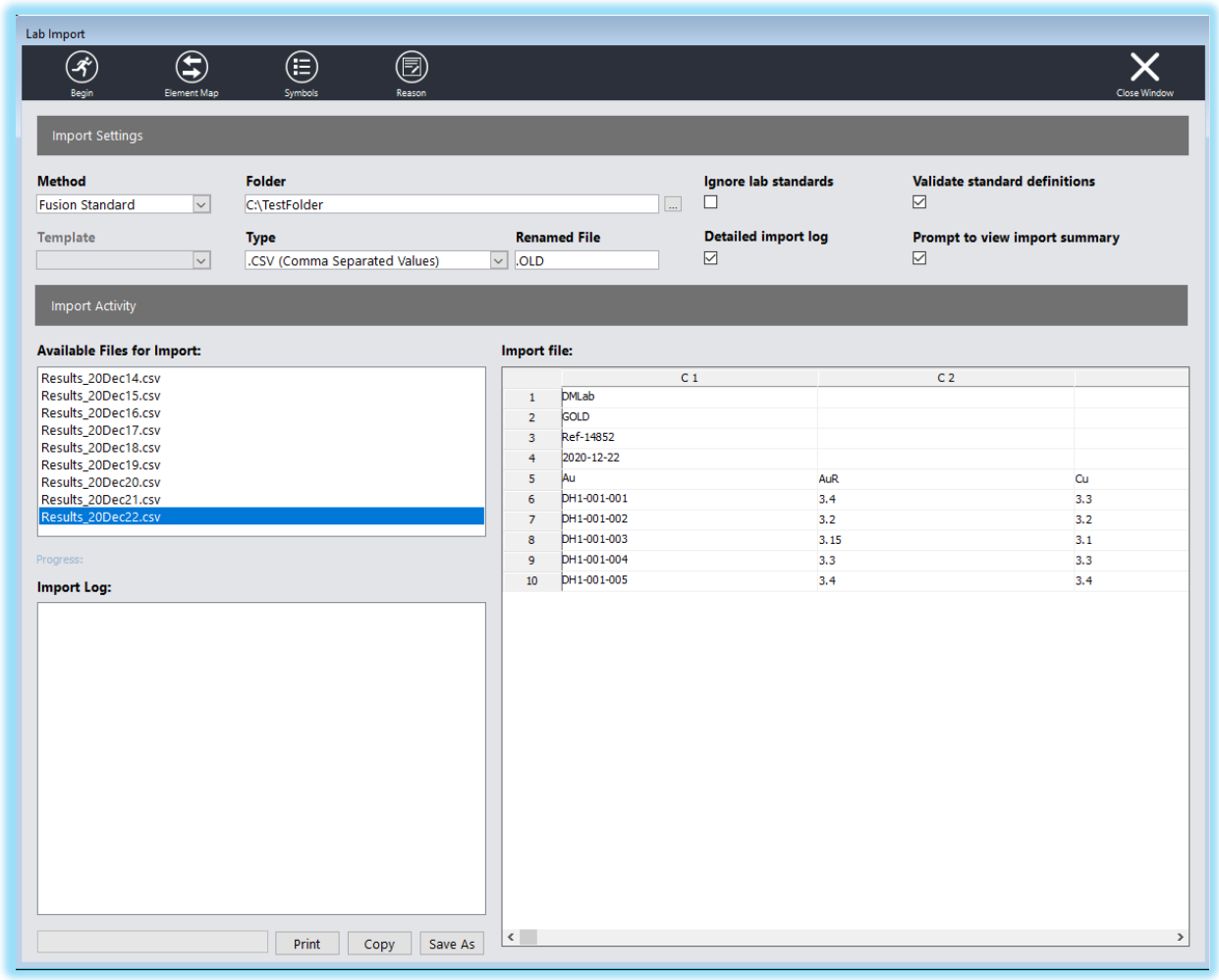
- Laboratories
- Lab Packages
- Lab Package Details
- Standards, Standard Validation Rules
- Custom Lab Import Templates, if not using the Fusion Standard format.

There are also several System Preferences which apply to the Lab Import, controlling various actions:

- Preview Sample Type
- Detailed Email Body
- Check Dispatch
- Update Sample Dispatch Copies
- Warn / Stop Import if Analysis Date > Import Date

Open the Lab Import by clicking the **Import > Lab Assays Import** menu.




Lab Import
Begin
Element Map
Symbols
Reason
Close Window
Import Settings
Method
Fusion Standard
Folder
C:\TestFolder
Ignore lab standards
Validate standard definitions
Template
Type
.CSV (Comma Separated Values)
Renamed File
.OLD
Detailed import log
Prompt to view import summary
Import Activity
Available Files for Import:
Results_20Dec14.csv
Results_20Dec15.csv
Results_20Dec16.csv
Results_20Dec17.csv
Results_20Dec18.csv
Results_20Dec19.csv
Results_20Dec20.csv
Results_20Dec21.csv
Results_20Dec22.csv
Progress:
Import Log:
Print
Copy
Save As
Import file:
C 1
C 2
1 DMLab
2 GOLD
3 Ref-14852
4 2020-12-22
5 Au AuR Cu
6 DH1-001-001 3.4 3.3
7 DH1-001-002 3.2 3.2
8 DH1-001-003 3.15 3.1
9 DH1-001-004 3.3 3.3
10 DH1-001-005 3.4 3.4

Import Settings

- **Method:** Fusion Standard / User Defined. Indicates the format of the file that will be followed.
- **Template:** picklist of custom lab import templates, enabled only when **Method** is User Defined. After a template is selected, an arrow will appear to allow for a preview of the template definition.
- **Folder:** Use the browse button (ellipsis) to open the folder that is holding the import file(s). The location that was chosen last will be the starting point when the browse button is clicked.
- **Type:** CSV / TXT. Only files of the selected type will be available for import.
- **Renamed File:** specifies an extension to rename the successfully imported files. Set to the same as the selected type if you don't want to rename the file.
- **Ignore lab standards:** when enabled, lab standards will not be imported
- **Validate standard definitions:** when enabled, each standard type that is in the import file will be checked for a definition default result for each lab package detail
- **Detailed import log:** when enabled, a detailed summary of the file import will be displayed in the Import Log pane, uncheck to only display the list of holes that were imported to
- **Prompt to view import summary:** when enabled, following an import that has had standards imported, a prompt will appear to view the summary, and will then open the Batch Authorization window.

Import Activity

- **Available Files for Import**
  - displays a list of files matching the **Type** selected, that exist in the **Folder** that was chosen
  - select one or more files to import
- **Progress:** displays the progress (which file is being imported)
- **Import Log:** displays the operations that were performed during the Lab Import, including prompts and responses
- **Print, Copy, Save As:** buttons to allow users to print the import log, copy it to the clipboard, or save the log as a TXT file.
- **Import File:** displays the contents of the selected import file (first selected)

FUSION STANDARD IMPORT FORMAT

Each record in the Lab Import file must be in this format when using the Fusion Standard import method.

VBLAB

2005-VG

KBT1A1,DISP1

3/14/2007

Au_gpt_FA,Cu_Per_ICPMS

DH1-001-001,A,0.05,0.0502

DH1-001-002,A,0.051,0.052

DH1-001-003,A,0.24,0.98

DH1-001-004,A,1.11,1.08

DH1-001-005,A,1.06,1.13

ST-123,ST,1.13,1.03

BL-123,ST,<0.1,<0.1

Line 1

•**Laboratory Name:** The laboratory name is required in the import file and must exist in the DHLogger database. Refer to the Laboratory Administration reference table to add new labs.

Line 2

•**Lab Package:** The lab package is required in the import file and must exist in the DHLogger database. Refer to the Laboratory Administration reference table to add new packages.

Line 3

•**Lab Reference Number:** A unique reference number. This is required in the import file.

•**Dispatch Number:** A unique dispatch number from the dispatch report sent to the lab.

Line 4

•**Analysis Date:** The date analysis was performed in the YYYY-MM-DD format. This is required in the import file.

Line 5

•**Element Headers:** A list of the elements in the import file. Each entry must be seperated by a delimiter character (comma for *.CSV or tab for *.TXT). Element headers are required in the import file.

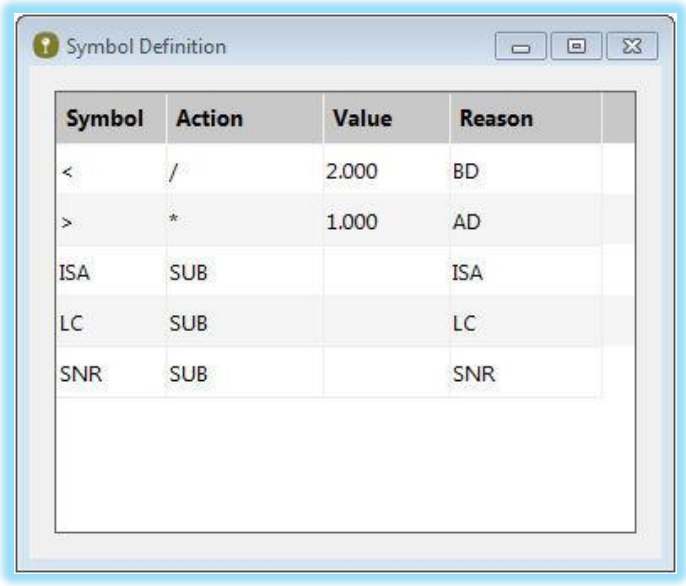
Line 6+

•**Sample Data:** The first column must be the sample number, the second column mustbe the sample type (if the package uses sample type mapping), and then the following columns represent the data corresponding to the list of elements. Each entry must be separated by a delimiter character (comma for *.CSV or tab for *.TXT). At least one row of sample result data is required in the import file.

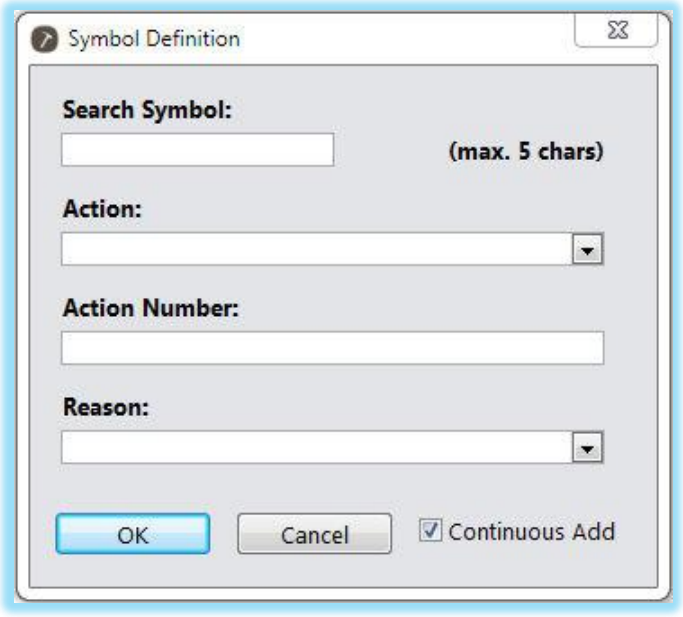
DEFINE SYMBOLS

The lab import file may contain symbols that specify any special operations that should be performed on the result data. For example, it can be specified that any time a Less than (<) symbol is encountered in an import file, the associated entry should be divided by 2.

Click the Define Actions for Unknown Symbols (Symbols) button to define behavior when a symbol is encountered in the import file.



Click the New button to add a new Symbol Definition.



Search Symbol

•The symbol that will trigger the Action specified

Action

•The action that is to be performed when the Symbol is encountered in an import file. The available choices are:

•**Mathematical Operators (+, -, /, *):** Perform addition, subtraction, division or multiplication.

•**Substitute**: Replaces the entry with the value found in the Action Number field.

•**Change Status:** Changes the status of the record to whatever is specified in the Status Code field. The Action Number field will turn into the Status Code box when Change Status is selected as an action.

Action Number

•The numerator used when the search symbol is encountered.

Reason

•The reason that the operation is performed. The reason picklist is maintained from the Options > Action Reason menu on the Lab Import window.

NOTE: The ability to Add, Edit or Delete from the Symbol Definitions can be restricted by a System Preference (or Business Unit Preference). Applying the restriction will prevent users from performing edits in Fusion Remote and Local databases, however it does not impact the Central or a Standalone database.

IMPORTING SAMPLE RESULTS

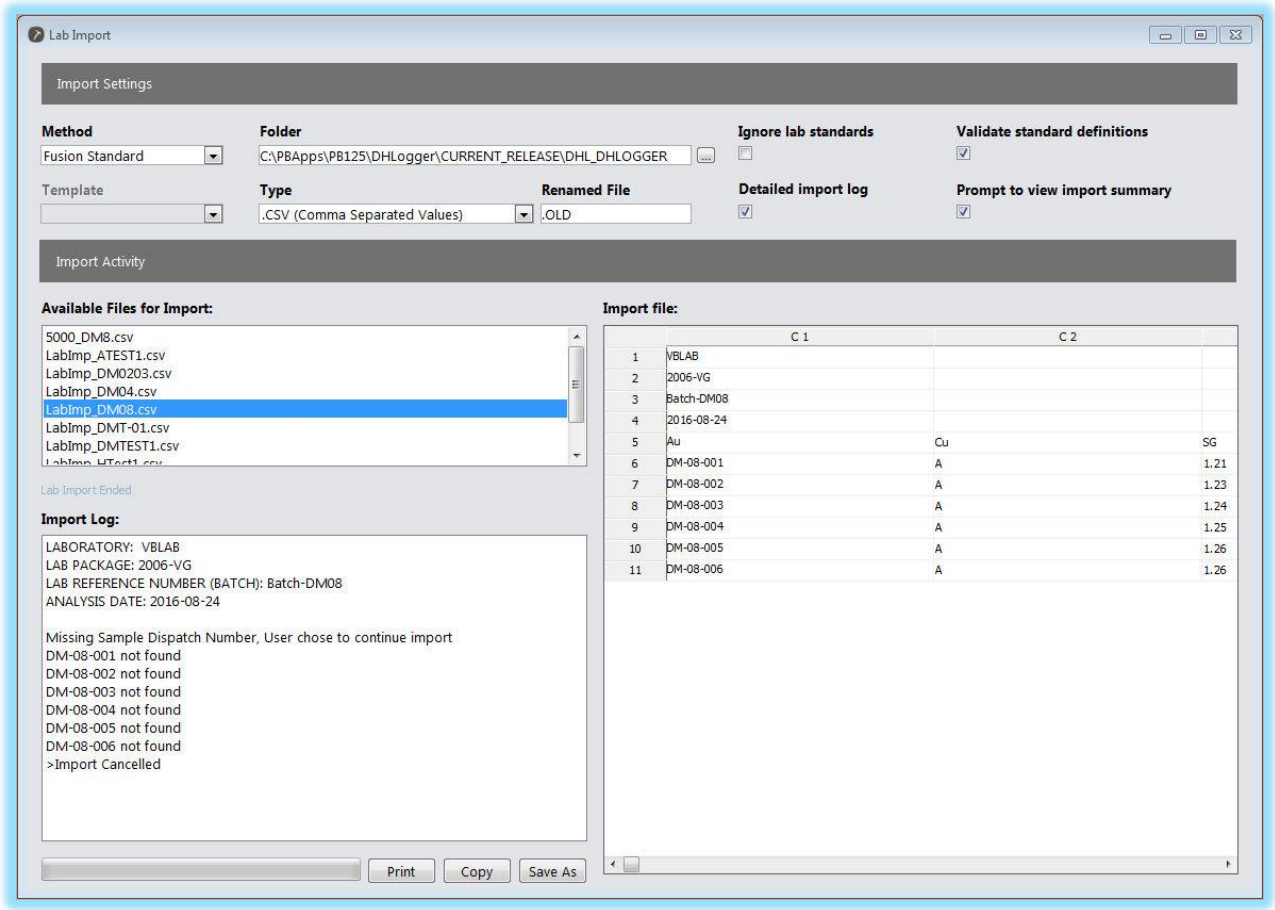
Select the import method that matches the import file you wish to import. If using the User Defined method, select the matching template.

Browse to the folder containing your import folder. Change the type if required. A list of files will appear in the Available Files for Import section. Selecting a file will display a preview in the Import File section.

Click the Run button to import the selected file(s)

The import file will be validated and the user may be prompted to continue the import in cases where data is missing.

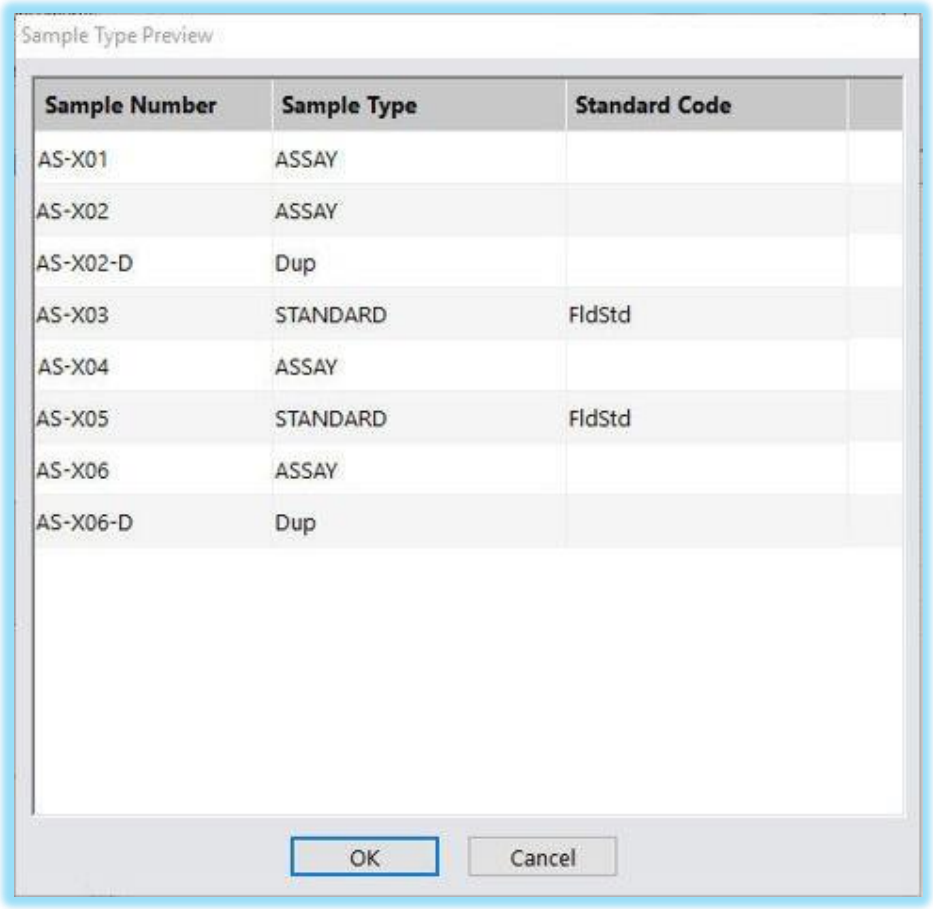
Once the import has completed, an email notification may be sent (depending on Email Configuration), and you may be prompted to view the import summary if the Prompt to view import summary checkbox is checked.



System Preferences

Several options exist which control various aspects of the Lab Import process:

- **Preview Sample Type:** when enabled, a window will be displayed that shows the sample type (and standard code) of each sample being imported



- **Check Dispatch:** with this enabled, validations of the Dispatch Number will occur in Lab Import
    - If the dispatch from the file is not found in the database, a prompt will be issued to continue with the import without performing dispatch checks and updates
    - If the dispatch from the file is in the database with a status = NEW, a prompt will be issued to continue with the import without performing dispatch checks and updates
    - If the dispatch from the file is in the database with a status other than NEW or DISPATCHED (eg. SENT), a prompt will be issued to continue with the import without performing checks and updates unless the setting to update sample dispatch copies is enabled, then no prompt will be issued
    - Dispatch checks – Missing / Extra samples: Are all samples in the dispatch in the import file? Are all samples in the import file in the dispatch?

- **Update Sample Dispatch Copies:** if enabled, sample dispatch information will be updated in 'copies' of the sample dispatch records when importing into a database other than the Central, and records will be flagged to update the Central when Fusion Client is next started against the Central database

Standard Validation Rules

The samples imported with Lab Import are assigned a pass/fail status based on the performance of all defined standard results within the file.

Batch Rules: All elements of a standard are validated against the defined limits, and if any value falls outside of the acceptable limits, all samples within the batch are considered failed. This is the behavior without any extra rule configuration.

Run Rules: A custom import file (and template) can be used that has a grouping of samples into smaller sub-sets, called "runs". It is possible to create a validation rule for a standard / element that says when a standard/element passes or fails, only pass or fail the samples that have the same value in the "run" column as the standard.

Plus/Minus Rules: Another type of validation rule can be created that will only pass or fail a certain number of surrounding samples, eg. "+/-2" would mean 2 samples above the standard and 2 samples below the standard (relative position as found in the import file)

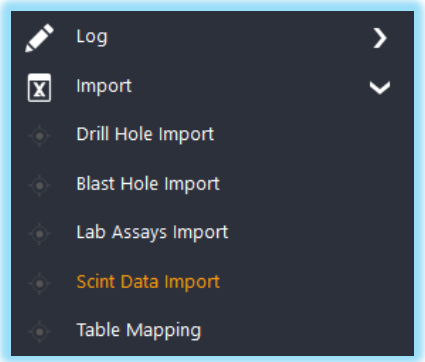
Std Dev Grade Range Rules: Another type of validation rule can be created that will only pass or fail samples with results that fall in the same standard deviation as the standard result. You can also specify a Run Number to limit the validation of samples to those in the same run as the standard's run.

An import file can contain a variety of standards that have a mixture of these validation rules. As a result, there is an order to the application of the rules: Batch, Run, Std Dev Grade Range, then Plus/Minus.

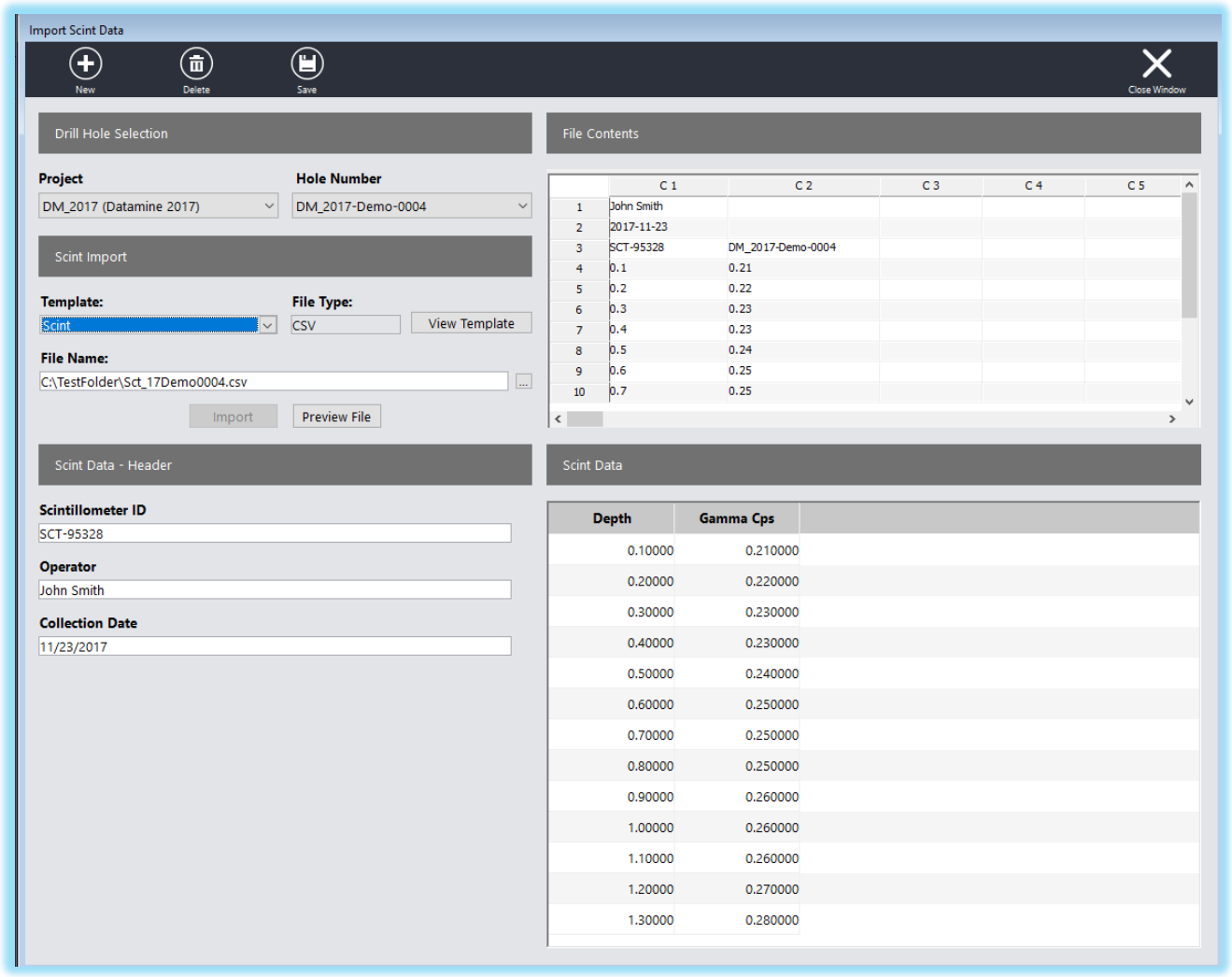
IMPORT: SCINT DATA IMPORT

The scint data import utility is used to import LAS Scint data from a comma or tab delimited file into DHLogger -- DHL_LAS_SCINT_HEADER and DHL_LAS_SCINT_DATA tables.

Open the Scint Data Import by clicking the **Import > Scint Data Import** menu.



Note: This import is only available when the user's active logging style has been granted access to the LAS module.


Import Scint Data
New
Delete
Save
Close Window
Drill Hole Selection
Project
DM_2017 (Datamine 2017)
Hole Number
DM_2017-Demo-0004
Scint Import
Template:
Scint
File Type:
CSV
View Template
File Name:
C:\TestFolder\Sct_17Demo0004.csv
Import
Preview File
File Contents
C 1 C 2 C 3 C 4 C 5
1 John Smith
2 2017-11-23
3 SCT-95328 DM_2017-Demo-0004
4 0.1 0.21
5 0.2 0.22
6 0.3 0.23
7 0.4 0.23
8 0.5 0.24
9 0.6 0.25
10 0.7 0.25
Scint Data - Header
Scintillometer ID
SCT-95328
Operator
John Smith
Collection Date
11/23/2017
Scint Data
Depth Gamma Cps
0.10000 0.210000
0.20000 0.220000
0.30000 0.230000
0.40000 0.230000
0.50000 0.240000
0.60000 0.250000
0.70000 0.250000
0.80000 0.250000
0.90000 0.260000
1.00000 0.260000
1.10000 0.260000
1.20000 0.270000
1.30000 0.280000

Drill Hole Selection

- **Project** and **Hole Number**: picklists for selecting the drill hole to which the data being imported belongs

Scint Import

- **Template**: picklist of templates that are configured in Fusion Administrator to define the mappings from a file to the Header and Data table columns
- **File Type**: from the template definition indicating what type of file will be imported (TXT or CSV)
- **View Template** button: to display the chosen template's configuration in a popup window
- **File Name**: the name of the file chosen to be imported (use ... button to browse to files)
- **Import** button: begins the import of data to the DHL_LAS_SCINT_DATA_HEADER and DHL_LAS_SCINT_DATA tables
- **Preview File** button: will display the contents of the import file in the "File Contents" window

Scint Data - Header

- Displays the custom columns in the DHL_LAS_SCINT_DATA_HEADER table, and will show the imported data when the import completes

Scint Data

- Displays the 2 standard columns (DEPTH, GAMMA CPS) and any custom columns from the DHL_LAS_SCINT_DATA table, and will show the imported data when the import completes

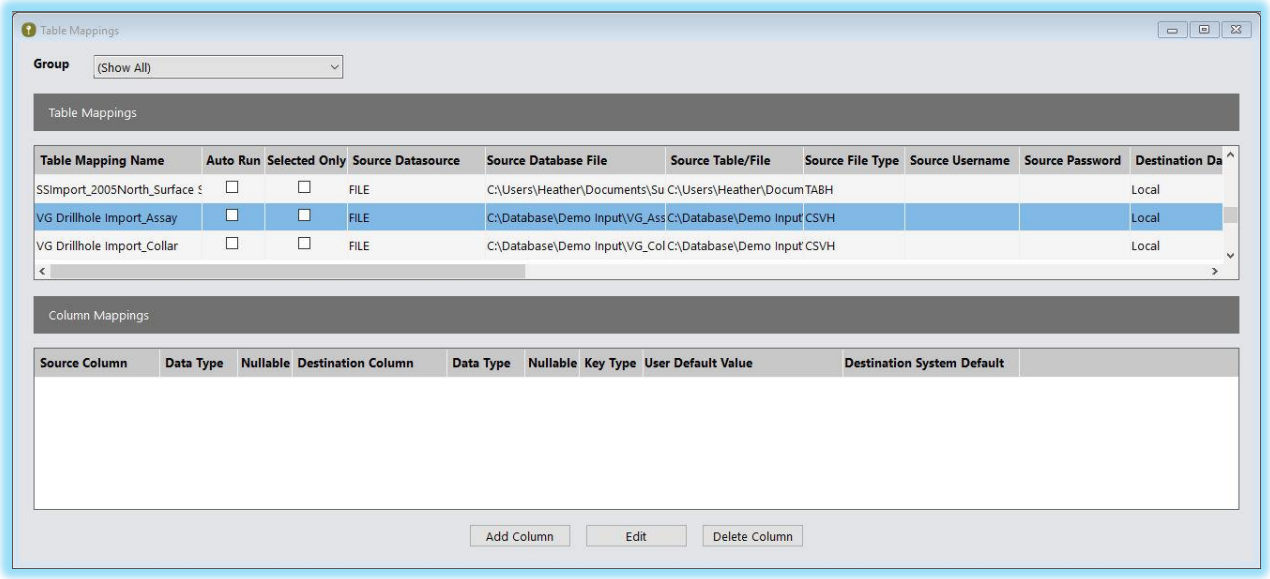
In addition to importing data to the DHL_LAS_SCINT_DATA_HEADER and DHL_LAS_SCINT_DATA tables, from this window you can also manually enter, modify or delete rows as necessary.

New button that will allow for the manual addition of a row into the Scint Data window.

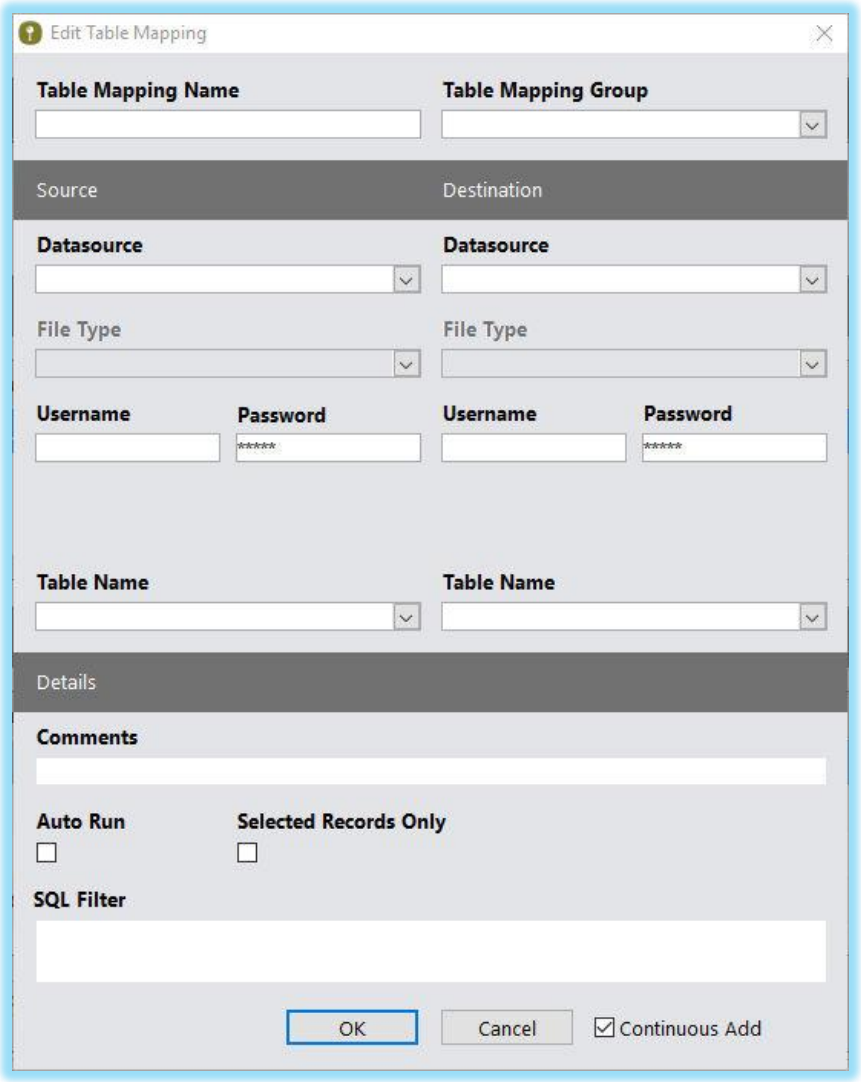
Delete button allows for the deletion of rows from the Scint Data window

Save button to save the additions, modifications, or deletions of rows from the Scint Data window.

IMPORT: TABLE MAPPING



This utility, opened from the **Import > Table Mapping** menu, is used to bring data into the database, or export data out of the database in a very straightforward way – mapping tables and columns. Using the table mapping utility should not be used to bring in data that needs to be validated (with many links to reference tables, etc.), in that case Drill Hole Import or Sample Station Import should be used, or Lab Import for analytical results that need to be validated against standards.



To define a new table mapping, click the New menu item and populate the window above.

Table Mapping Details

- **Table Mapping Name:** the unique name for the mapping
- **Table Mapping Group:** optional, a grouping for the mapping

Source

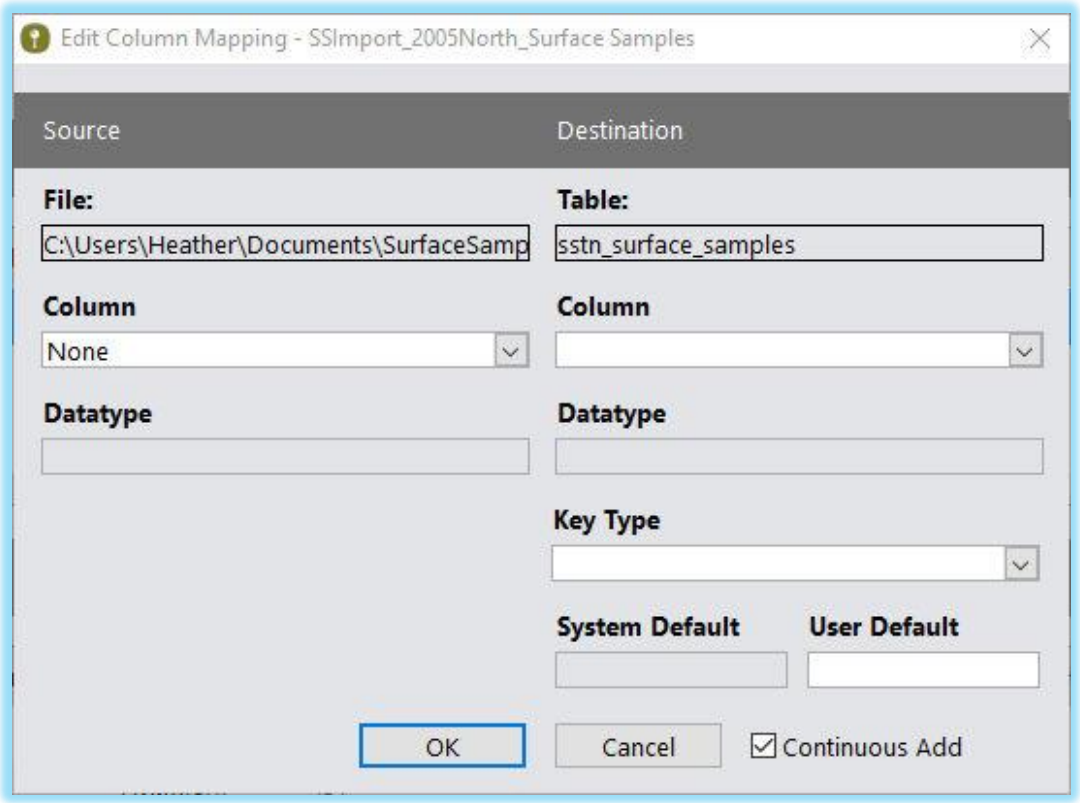
- **Datasource:** picklist, populated with ODBC Datasources that are already defined, plus FILE
- **File Type:** DSN if a datasource is selected, or Tab delimited / Comma delimited if FILE is chosen as datasource
- **Username, Password:** may be required if a database has been selected
- **Database File:** if MS Access File is selected as datasource, must pick the MDB file
- **Table Name:** if a database (MDB or otherwise) is selected, pick the table
- **File Name:** if FILE is selected, pick the file

Destination

- **Datasource:** picklist, populated with ODBC Datasources that are already defined, plus FILE
- **File Type:** DSN if a datasource is selected, or Tab delimited / Comma delimited if FILE is chosen as datasource
- **Username, Password:** may be required if a database has been selected
- **Database File:** if MS Access File is selected as datasource, must pick the MDB file
- **Table Name:** if a database (MDB or otherwise) is selected, pick the table
- **File Name:** if FILE is selected, pick the file

Details

- **Comments:**information about the table mapping
- **Auto Run:** checkbox to indicate this mapping should be executed when the "Auto Run" menu item is selected
- **SQL Filter:** a filter can be applied to the mapping to the mapping, useful when data is transfer involves a database table



Once the mapping is defined, column mappings can be added.

Source

- **File / Table:** not editable, depending on the source type (file or dsn) will display the source filename or table name
- **Column:** from a picklist, supply the source column name
- **Datatype:** not editable, displays the selected column's datatype/size

Destination

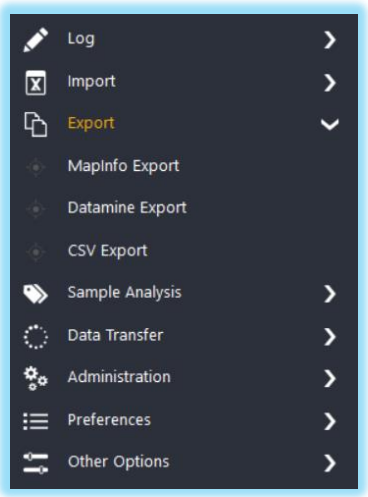
- **File / Table:** not editable, depending on the destination type (file or dsn) will display the destination filename or table name
- **Column:** from a picklist, supply the destination column name
- **Datatype:** not editable, displays the selected column's datatype/size
- **Key Type:** None / Primary. Whether the column is the primary key or not
- **System Default:** not editable, displays the selected column's database default if it exists
- **User Default:** supply a default to be used when the column's value is null

When all column mappings have been created, simply click the Move Data menu item to execute the table mapping.

EXPORTS

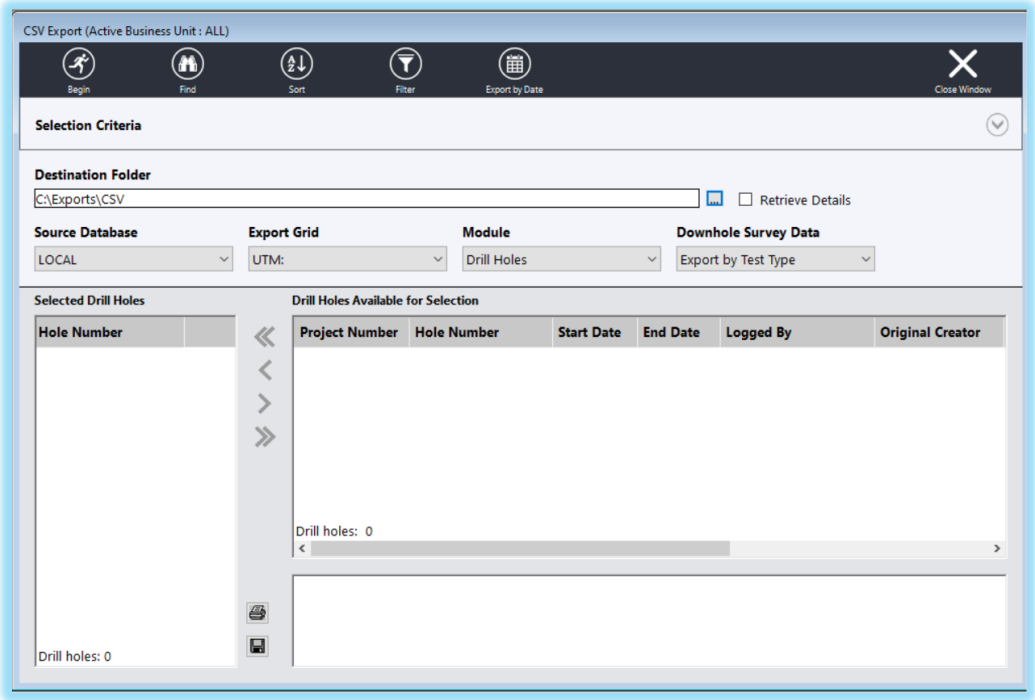
DHLogger can export data to MapInfo, Datamine, CSV and Text formats using pre-defined standard exports or custom exports designed using Report Manager and the Custom Export Designer available in Fusion Administrator. DHLogger can display up to 20 custom exports.

Exports can be accessed by selecting the desired export from the **Export** menu.



Below are the standard exports available in DHLogger:

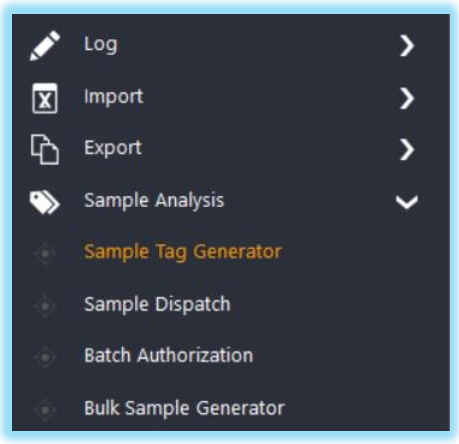
- CSV Export
- Datamine Export
- MapInfo Export

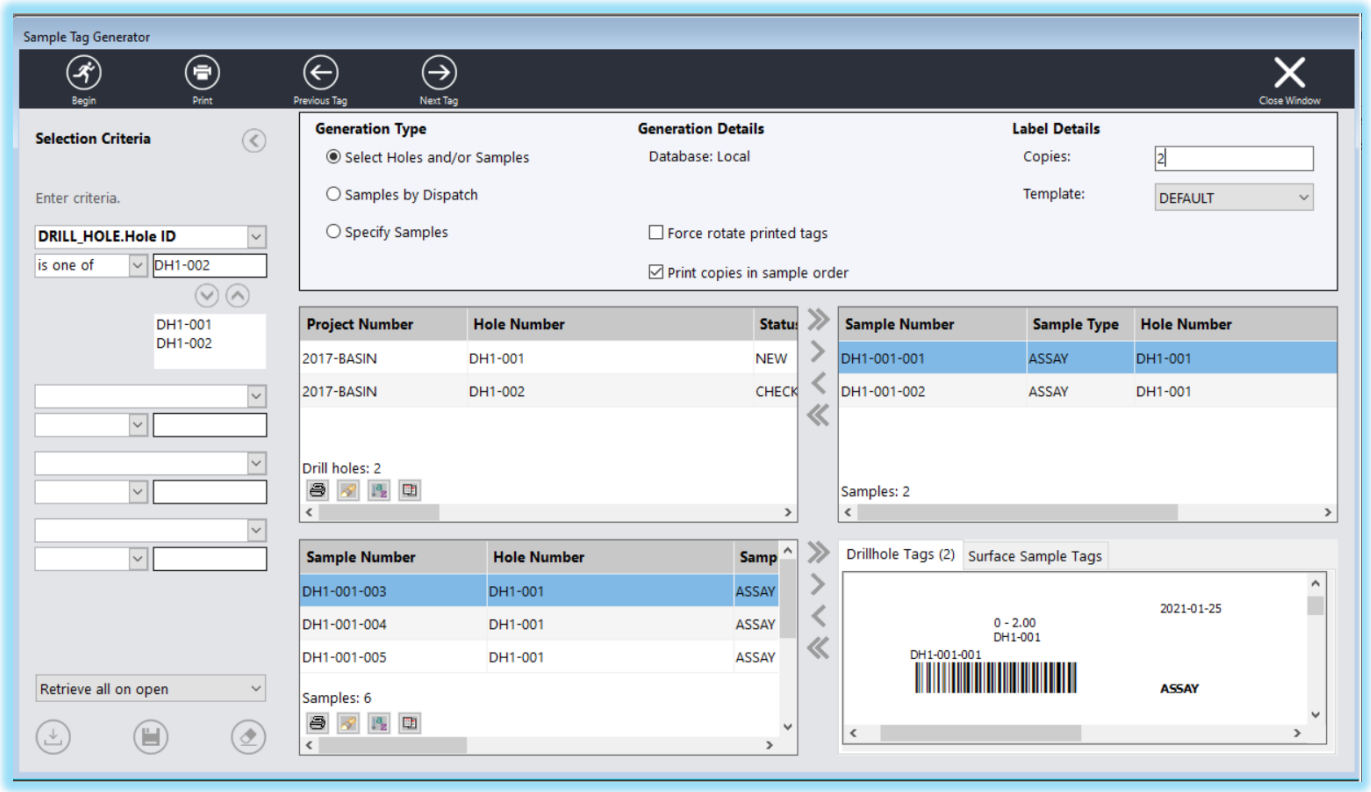


SAMPLE ANALYSIS: SAMPLE TAG GENERATOR

The Sample Tag Generator utility is used to automate the creation of printable sample tags. You can print tags for existing samples, or you can specify a Sample Number and quantity, and the Sample Tag Generator will create tags for those samples. Entering some Selection Criteria can help to reduce the number of Holes or Dispatches that will be retrieved.

The Sample Tag Generator is available from the **Sample Analysis > Sample Tag Generator** menu item.





A DEFAULT template is included with DHLogger and custom sample tag templates can be generated using the Sample Tag Designer utility in Fusion Administrator. The font, colour, text size, included columns and even custom images can be defined on custom sample tags.

GENERATING SAMPLE TAGS FOR EXISTING SAMPLES

SELECT HOLES AND/OR SAMPLES

Select this option under the Generation Type heading to select the samples by Drill Hole.

Select a Drill Hole, then either add the hole or individual samples to the top right list. These are the samples that will be used to generate tags.

SAMPLES BY DISPATCH

Select this option under the Generation Type heading to select the samples by Dispatch.

Select a Dispatch, then either add the dispatch or individual samples to the top right list. These are the samples that will be used to generate tags.

Since a Dispatch can contain samples of multiple types (DHLogger, Sample Station, Modular) there is the ability to specify a template for each type of tag.

GENERATING SAMPLE TAGS FOR SAMPLES THAT DO NOT EXIST

SPECIFY SAMPLES

Select this option under the Generation Type heading to create tags for samples that do not exist in the database.

Enter the Starting Sample Number and Quantity to Generate under the Generation Details heading. The starting sample number will be incremented for each consecutive sample tag generated.

GENERATION DETAILS

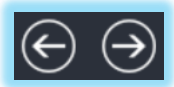
Two options exist for controlling the generation and printing of samples:

- **Force rotate printed tags**: to rotate the tags 90-degrees when they print
- **Print copies in sample order**: determines whether copies of tags are printed as the samples are numbered, or as sets of sample tags (eg. S1, S1, S2, S2, S3, S3 vs S1, S2, S3, S1, S2, S3)

LABEL DETAILS

Pick a Template if you wish to generate tags other than DEFAULT and specify the number of Copies under the *LABEL DETAILS* heading.

Click the Begin button to generate the tags.



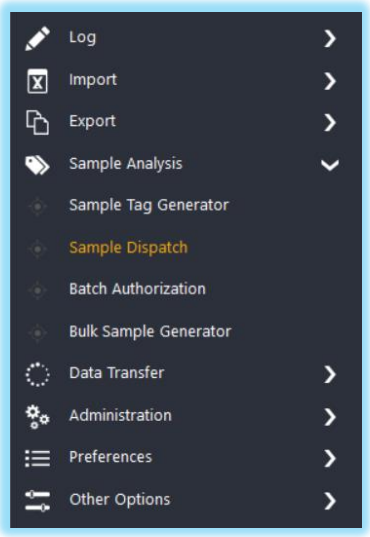
Use the Navigation buttons on the toolbar to move through the generated tags.

Click the Print button to send the generated tags to the printer.

SAMPLE ANALYSIS: SAMPLE DISPATCH

The Sample Dispatch module is used to group samples and assemble the instructions that will be sent to the laboratory for sample analysis.

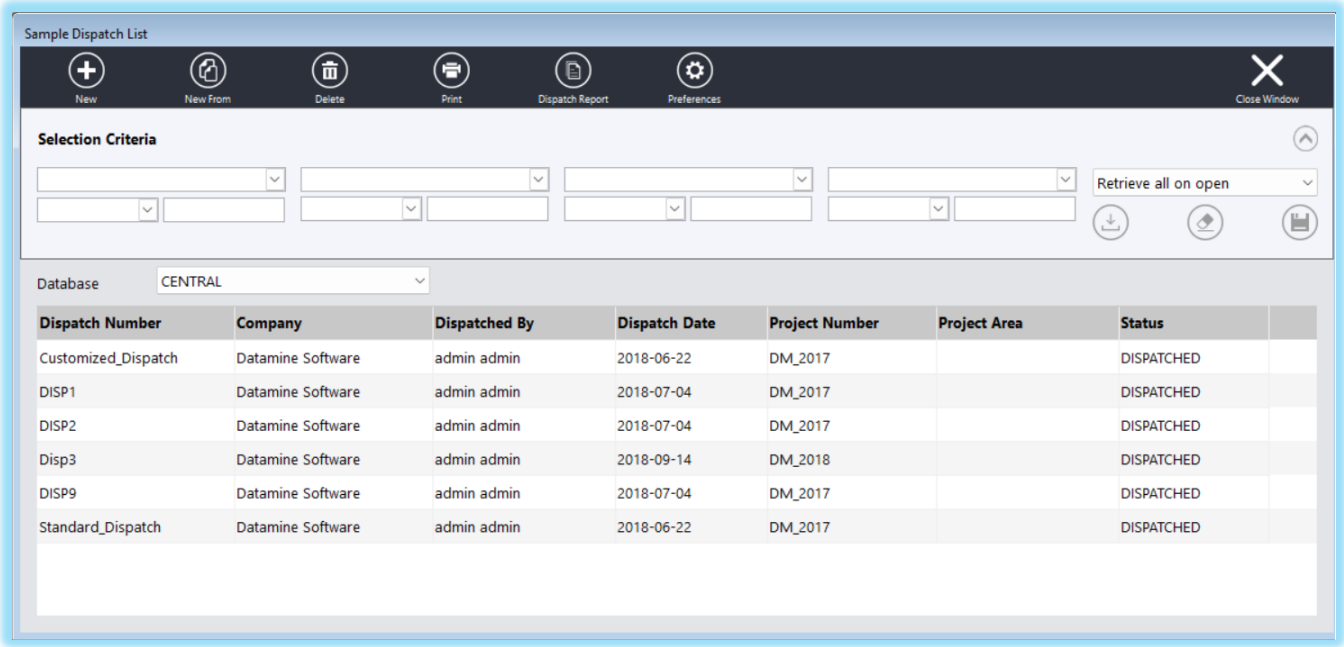
Open the Sample Dispatch module by clicking on the **Sample Analysis > Sample Dispatch** menu item.



DISPATCH LIST

The list of sample dispatch records has the advanced filter bar added to it to allow you to filter the list by columns in the DHL_SAMPLE_DISPATCH_HEADER and DHL_SAMPLE_DISPATCH_SAMPLES tables. You can also save the filter, and have the list filtered when the window is reopened.

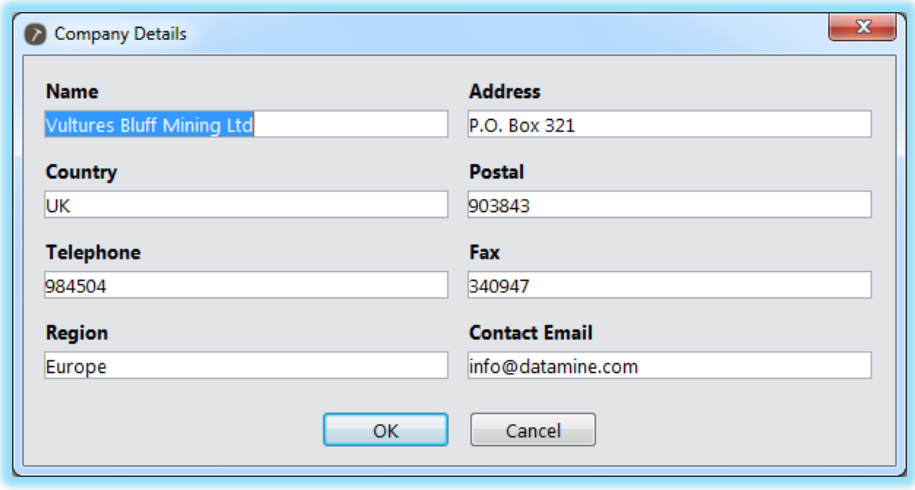
From this window you can add a new dispatch with the New button, or use the New From button to create a dispatch from an existing one – you will be prompted to confirm whether or not to automatically add the same samples to the new dispatch.



COMPANY DETAILS

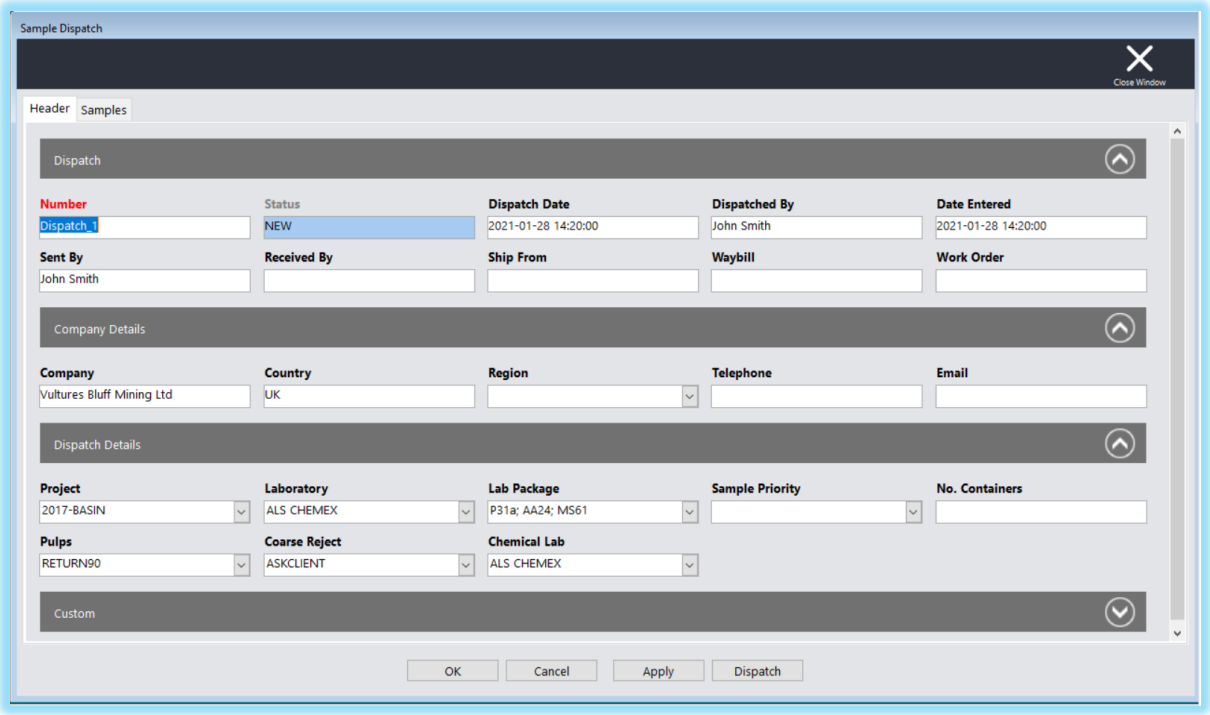
Each sample dispatch record stores the company information, including a contact. To prevent the user from having to enter these details every time, which could result in data entry errors or missing data, the fields are automatically populated from defaults that are configured in each database.

To configure the Company Details, click on the Preferences menu item when the Sample Dispatch list window is opened.



CREATING A NEW DISPATCH

The sample dispatch record is comprised of two sections: the header and the samples. It serves as a request that is sent with the samples to instruct the laboratory on what to analyze.



The Header information for a Sample Dispatch record

The Sample Dispatch Header is customizable, both in column structure, and layout. The layout configuration is performed with the same window as the Collar Layout configuration. This window is accessible using a right-click of the mouse, which displays a pop-up menu allowing you to 'Toggle Edit Mode'.

Dispatch

- **Number:** a unique name for the dispatch. If a template is used, it may be updated based on information entered in the Dispatch Details (eg. Project)
- **Status:** not editable, identifies the current status of the record (NEW, DISPATCHED, SENT)
- **Dispatched By:** the username of the person dispatching the samples. It defaults to the current user's FirstName + LastName, but can be edited.
- **Dispatch Date:** the date the samples were sent out. It can be entered directly or picked from a calendar popup when the field is double-clicked.
- **Date Entered:** the date the information was entered.
- **Sent By:** the name of the person that is shipping the dispatch
- **Received By:** the name of the user/lab expecting the dispatdh
- **Ship From:** the pickup location for the sample dispatch
- **Waybill:** the shipping or tracking number for the dispatch
- **Work Order:** the work order to which this dispatch is charged
- **Carrier:** from a picklist, the name of the company that will transport the samples from the site to the lab.

Company Details

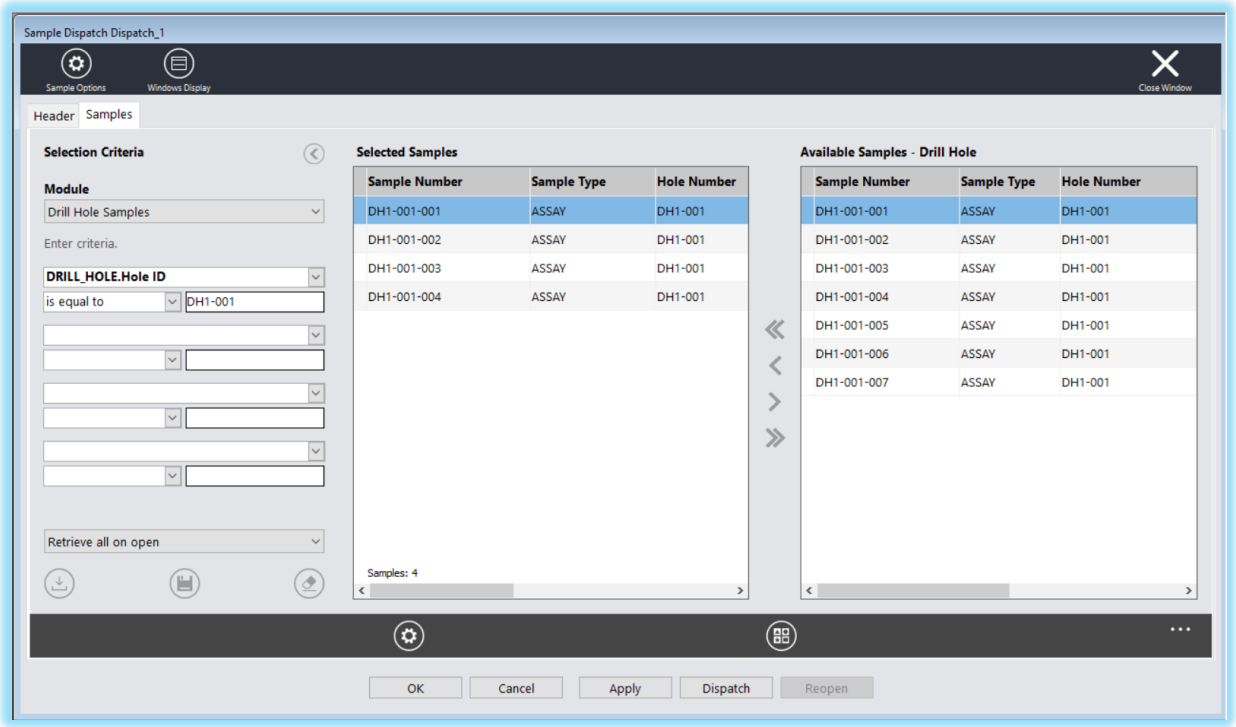
- Pre-populated with the defaults from the Company Details window, configured from the Preferences menu; can be edited on the screen
- Company name, address and contact information

Dispatch Details

- **Project Area:** this is the location in the project where the samples are located, from a picklist linked to 'Hole Locations'
- **Project:** this the project where the samples are located, from a picklist linked to 'Projects' (note: there is no actual validation to ensure samples in dispatch are from holes/samples belonging to this project)
- **Laboratory:** the laboratory that is performing the analysis, from a picklist
- **Lab Package:** the lab package that will be used, defining the analysis to be performed, from a picklist
- **Sample Priority:** the priority given to this request for analysis, from a picklist
- **No. Containers:** the total number of containers being shipped to the lab as part of this dipsatch.
- **Pulps:** the instructions to the lab for what is to be done with the undersized material, or pulp, from a picklist
- **Coarse Reject:** the instructions to the lab for what is to be done with the oversized material, from a picklist
- **Preparation Lab:** if different, the name of the lab that is performing the preparation of the samples, from a picklist
- **Comments:**general comments about the dispatch
- **Special Instructions:** additional instructions to the lab regarding the handling or analysis of the samples

Three system options can be enabled that have an impact on the Sample Dispatch:

- **Use Filters to Restrict Lab Package Selection:** enabling this setting adds two fields (Analysis Type, Hole/Medium) to the Sample Dispatch Header section in a dispatch that will filter the list of lab packages. This also requires additional configuration in the Lab Package.
- **Use Lab Package to Filter Available Samples:** this setting will filter the list of available samples to holes that have the same Hole Type or surface samples that have the same Medium Code as what is associated with the selected lab package.
- **Use Lab Package to Validate Selected Samples:** this setting will validate the dispatch's selected samples allowing only samples that belong to holes that have the same Hole Type or surface samples that have the same Medium Code as what is associated with the selected lab package.



The Sample information for a Sample Dispatch record

Selection Criteria

- A means of filtering the available samples list
- **Module:** Channel / Drill Hole / Surface / Standards / Composite / Modular. The type of samples to display in the Available Samples window
- **Criteria:** specify up to 4 columns for filtering
- Save the filter, set 'retrieve on open' options, retrieve the filtered data

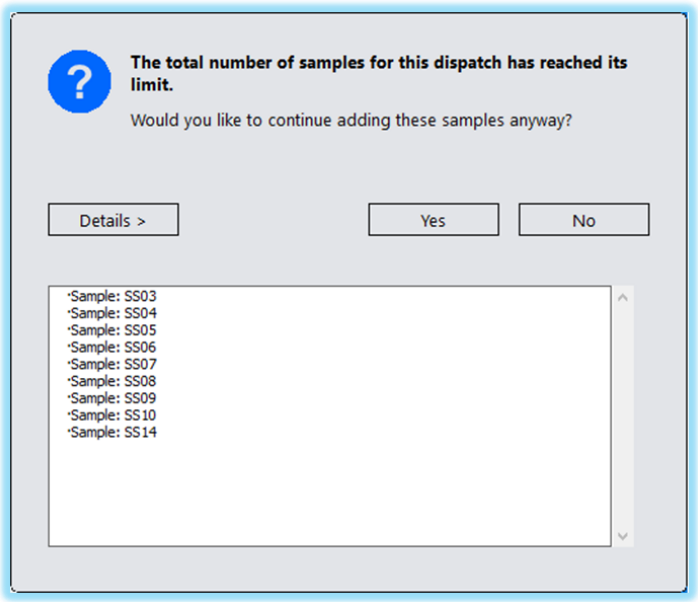
Selected Samples

- Drag/drop samples from the Available list to the Selected list
- Retrieves and displays the samples that have been saved to the Dispatch

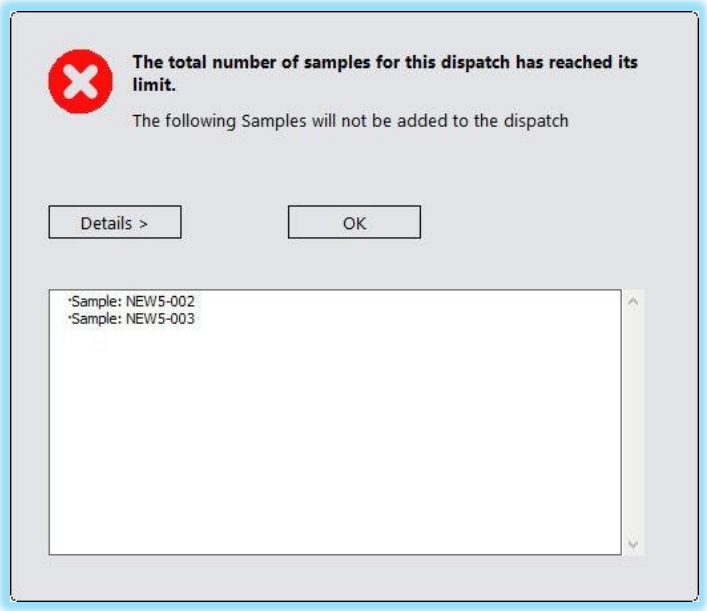
Available Samples

- Displays the available samples for the chosen module which meet the defined criteria

A System or Business Unit Preference exists which can limit the number of samples that can be added to a dispatch. Along with a number limit, administrators can set the action that will occur when the limit has been reached (Warn or Restrict).

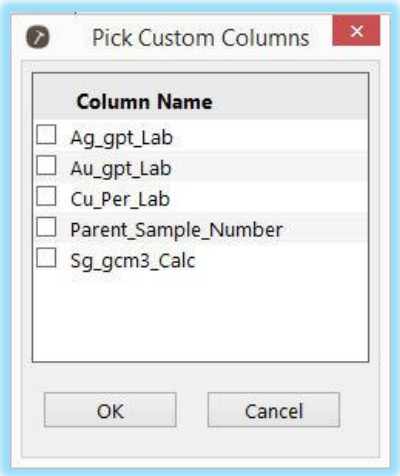


An example of the warning message that is received when the Dispatch Limit has been reached

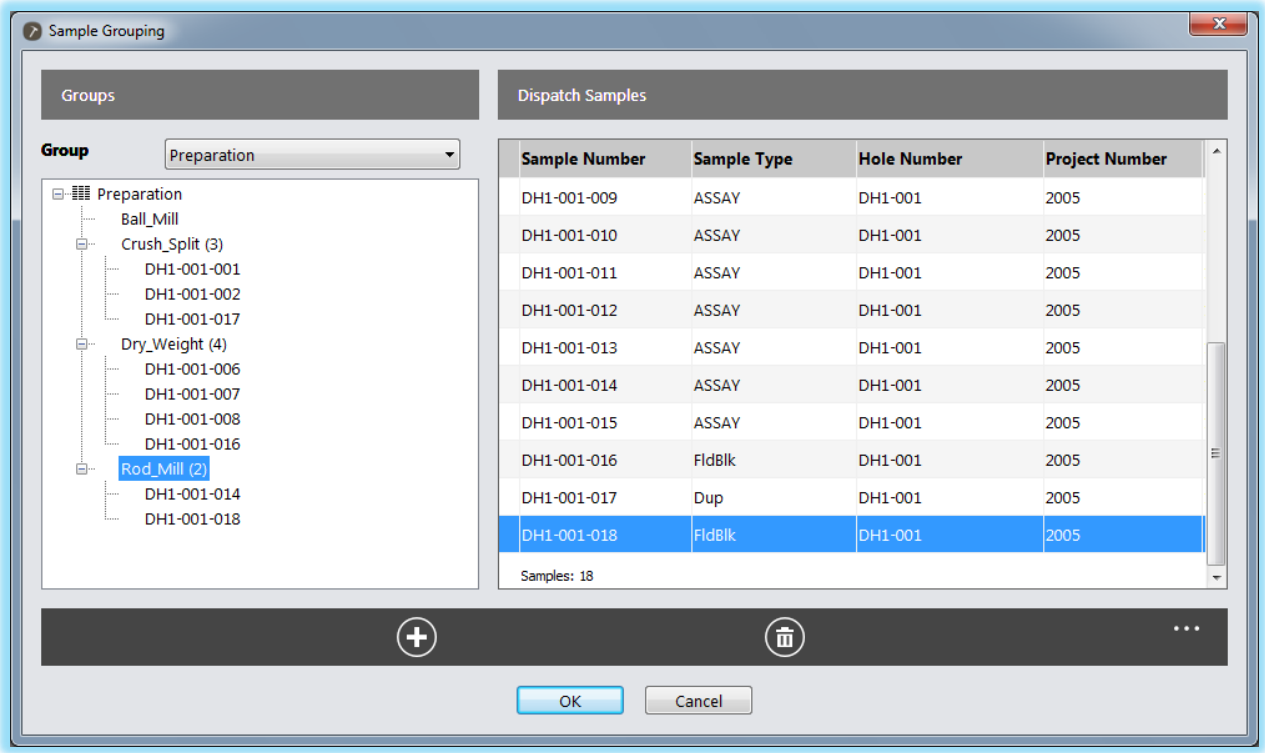


An example of the restriction message that is received when the Dispatch Limit has been reached

To customize the Available Samples window, click the Customize Columns button to add or remove columns from the window. The editor window will not open if the "Include QA/QC with Available Samples" option is checked (see Options menu when Samples tab has focus).

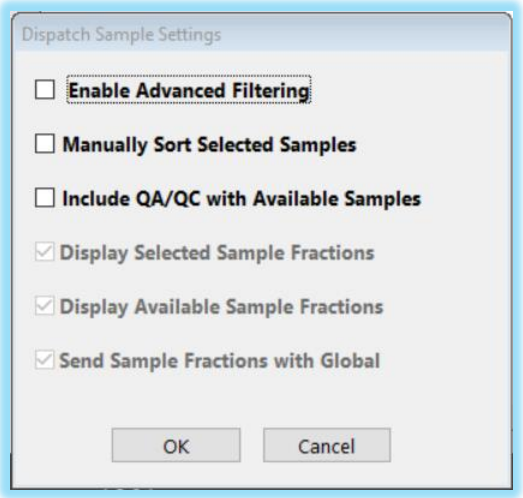


The samples that have been selected for dispatch can be grouped further. Click the Group Samples button to open the Sample Grouping window.

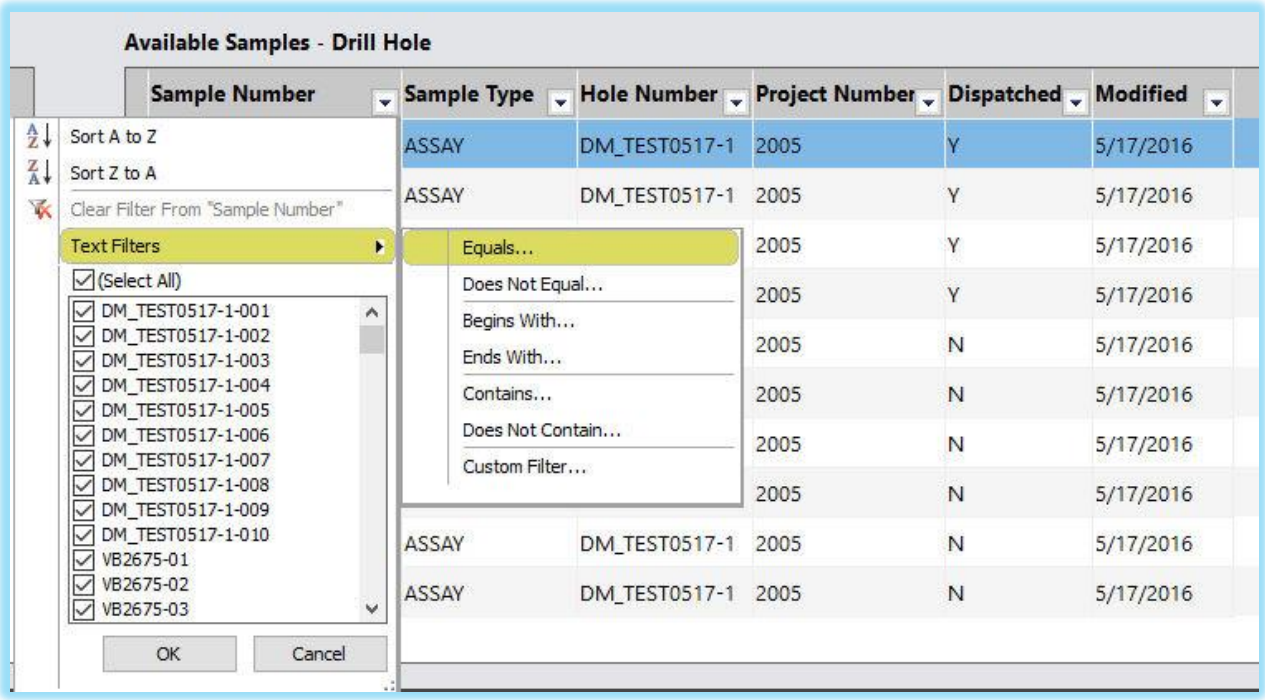


- The groups are configured in Fusion Administrator and can be defined as either a picklist of known reference data (eg. Preparation), or as an edit field, where the Group Values will be added at the time of dispatch (eg. Seal Number).
- Warnings are implemented to alert the user if there are samples in the dispatch that are not assigned to a group.
- Samples can be assigned to multiple group values, but not under the same group (eg. to a Preparation and a Seal Number is allowed, but not to 2 preparations or 2 Seal Numbers)

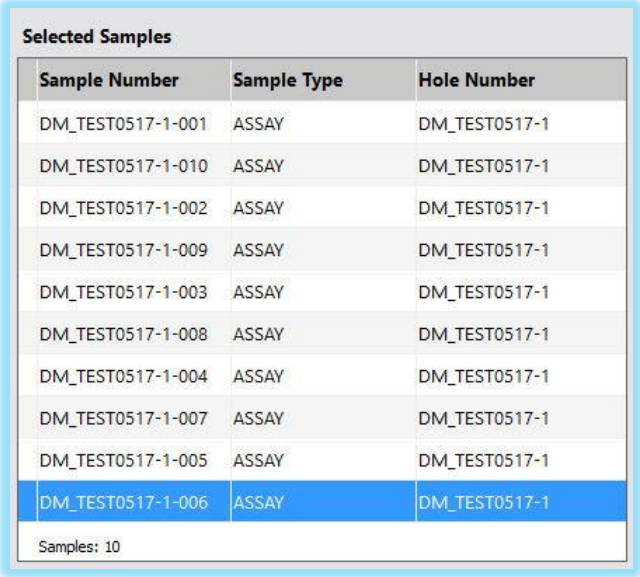
Additional settings for the Samples window are available by clicking the Sample Options toolbar item.



Advanced Filtering: with this enabled, little arrows appear in each of the column labels in the Available Samples window to allow for the specification of a filter on the column



Manually Sort Samples: with this enabled, the samples in the Selected Samples window can be dragged and dropped to create the list in any order desired; when disabled, the list is sorted alphabetically on Sample Number.



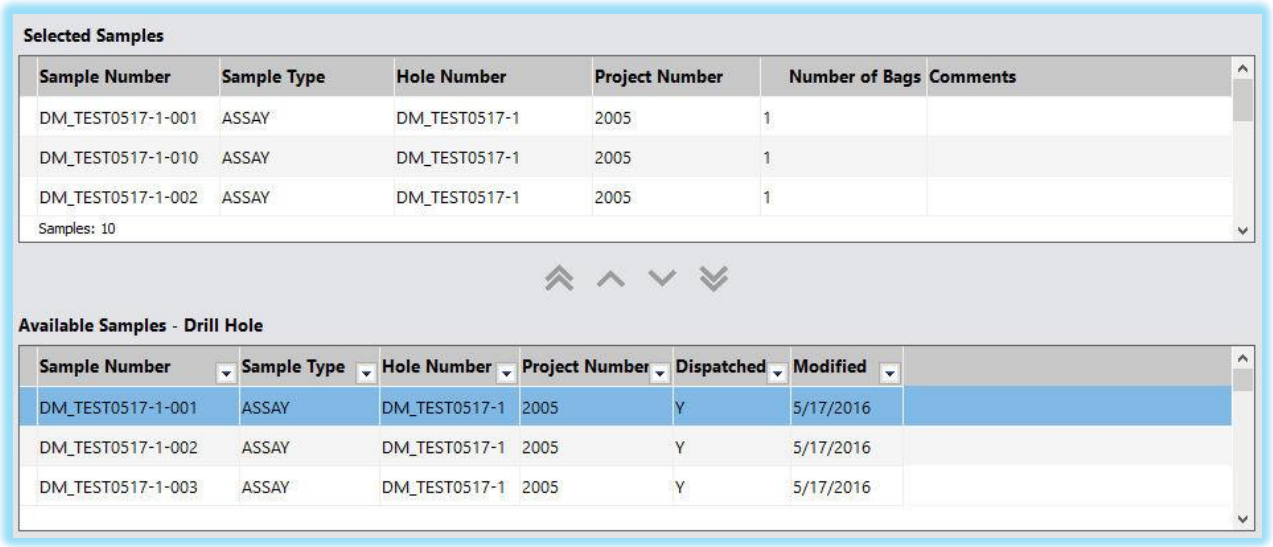
Include QA/QC with Available Samples: when enabled, standards will be visible in the Available Samples list along with the samples for the chosen module (eg. Drill Hole).

Display Selected Sample Fractions: option to show sample fractions in the Selected Samples window.

Display Available Sample Fractions: option to show sample fractions in the Available Samples window.

Send Sample Fractions with Global: when enabled, if a sample that has size or density fractions is dragged to the Selected Samples list, the sub-samples will also be added to the Selected Samples list (although they won't be visible unless the 'display' option is enabled).

Clicking the Window Display toolbar item will change the orientation of the Selected and Available Samples windows, from side-by-side to top-bottom, and vice versa.

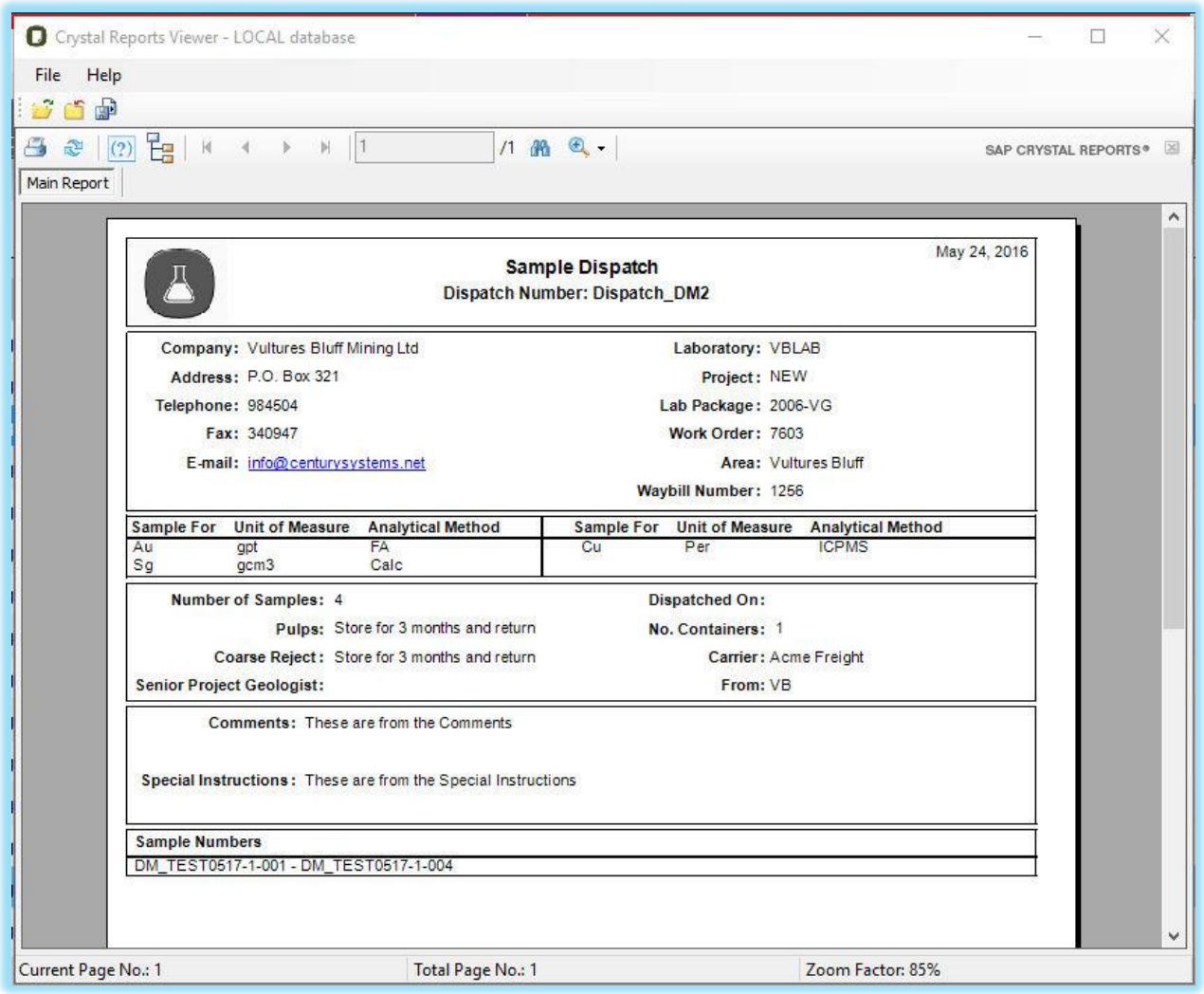


DISPATCHING A SAMPLE DISPATCH

When all information is entered in the header, and the samples are selected and organized, the record is ready to be dispatched. At any point, the record can be closed and saved for further editing; however, when it is complete, click the "Dispatch" button to finalize the record. The status will be changed to "DISPATCHED" and all the fields will be disabled (locked for editing).

- A Sample Dispatch can be reopened for editing by a user with the QUALIFIED PERSON profile, where the status will be reset to "NEW"
- A Sample Dispatch will receive a status of "SENT" when a record in with "DISPATCHED" status is transferred from the Local to Fusion Remote or Central, or from Fusion Remote to Central. The 'copy' that remains in the source database has its status set to "SENT".

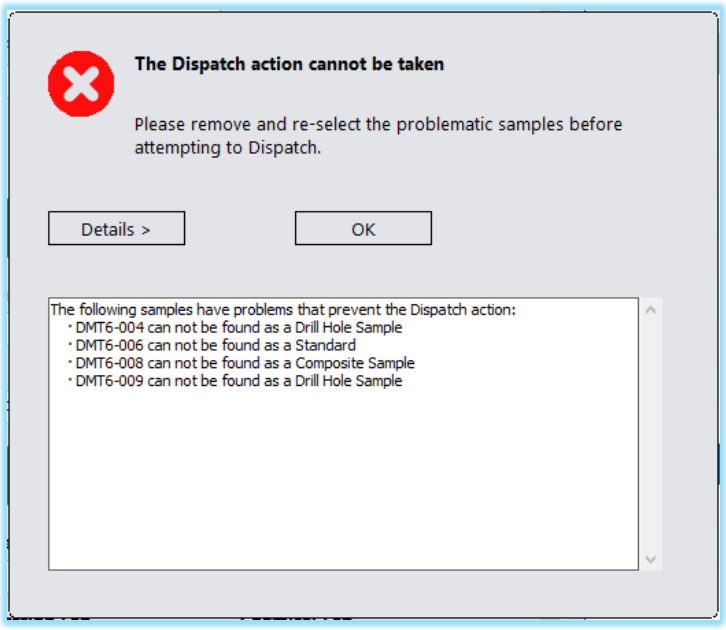
Immediately following the Dispatch action, Crystal Reports Viewer will open the Sample Dispatch Report for this record. At any time, you can also select a dispatch from the list and use the Report menu item to open the Dispatch Report.



LOCK DISPATCHED SAMPLES

"Lock Samples in Data Tables once they are dispatched", a system preference available in Fusion Administrator, offers a way to disable the editing (depths, sample number) or deletion of samples that belong to a Sent Dispatch. Once enabled, a new workflow for the Sample Dispatch module will be established:

- all Dispatch records can be added, edited, and dispatched from the Local Database only
- the only samples that will be available for selection are those that are the 'master' version (ie. holes are CheckedOut or New)
- validation will occur before dispatching to confirm that the samples added to the dispatch still match the type of sample in the database (in case S1, S2, S3 were added to a dispatch and then renamed as a standard 'S2' was added; S2 is no longer a sample and a validation message should warn the user of the change)



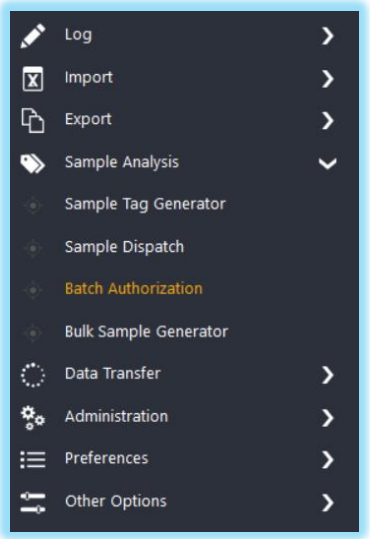
When the Sample Dispatch module is opened against other database environments (Central, Fusion Remote):

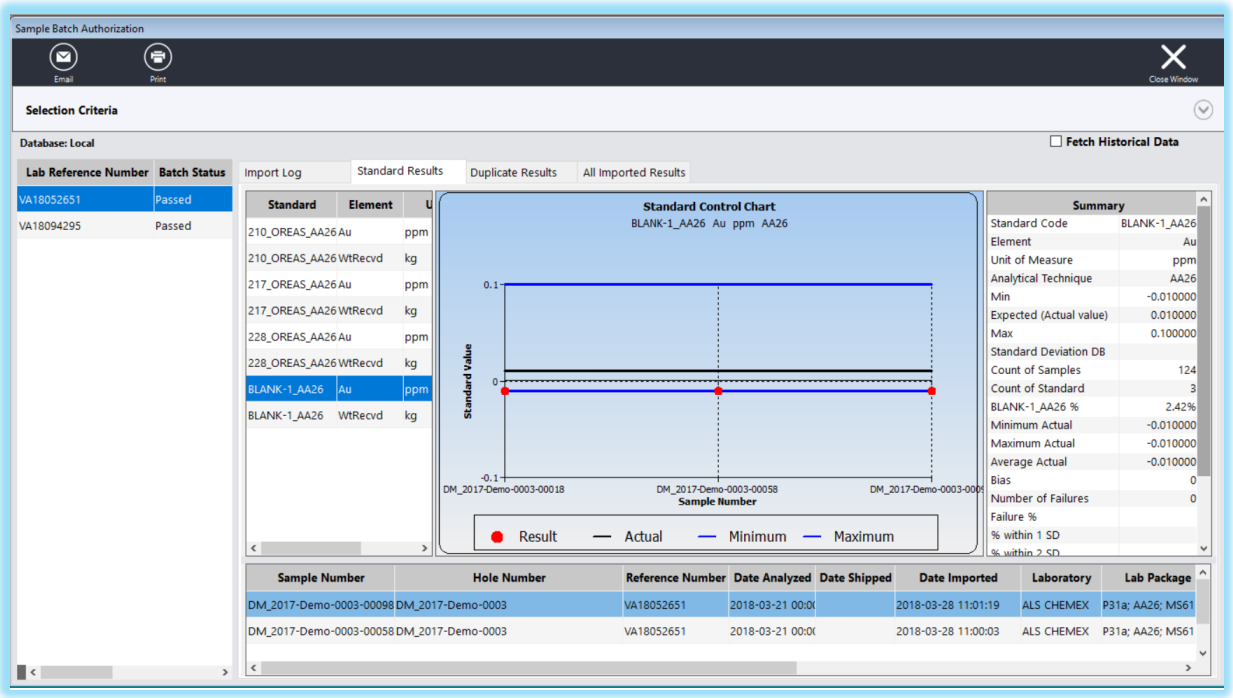
- the NEW button is not available
- on a dispatch with 'DISPATCHED' status, the 'Reopen' button will remain disabled to users with QUALIFIED PERSON profile

SAMPLE ANALYSIS: BATCH AUTHORIZATION

The Batch Authorization utility is a QA-QC analysis tool that allows users to review lab import information and control charts.

The Batch Authorization window is accessed from the **Sample Analysis > Batch Authorization** menu item.





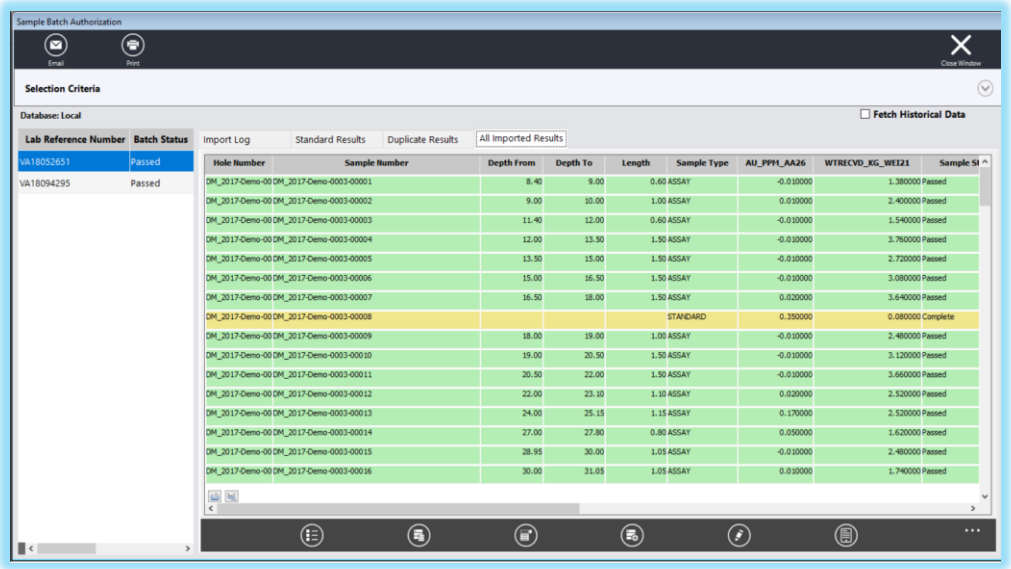
The Batch Authorization module is comprised of three components: Selection Criteria, Batch List, and Batch Summary tabs.

Selection Criteria: Advanced Filter Bar, which allows for the specification of up to 4 columns to aid in the retrieval of a reduced set of data. The filter can be saved, along with the Retrieve options. The criteria will filter the rows in the Batch List.

Batch List: is a list of the most current lab reference numbers along with their batch status, which meets the specified selection criteria. It also shows the Dispatch Number associated with the batch.

Batch Summary tabs: for the selected lab reference number, you can view several tabs of information: Import Log, Standard Results, Duplicate Results, and All Imported Results

There is also a **Fetch Historical Data** checkbox that will impact the results that are included in the Batch Summary. When enabled, it will retrieve all samples/standards associated with the Batch Number; when disabled, it will only retrieve the samples/standards associated with the last import of the Batch.



Users that have been assigned the QUALIFIED PERSON profile will see a toolbar on the All Imported Results tab.

Select a batch with a status of 'Passed' and, without selecting any samples on the 'All Imported Results' tab, click the **Authorize** toolbar button to change the status of the batch to 'Authorized'.

The status can be changed at both the batch and sample level. When no samples are selected, using the **Change Status** toolbar button will allow a user to change the status of the entire batch. When individual samples are selected, the sample status can be changed.

To assist with the selection of samples, you can use the **Select Status** toolbar button to highlight the samples that have a particular status.

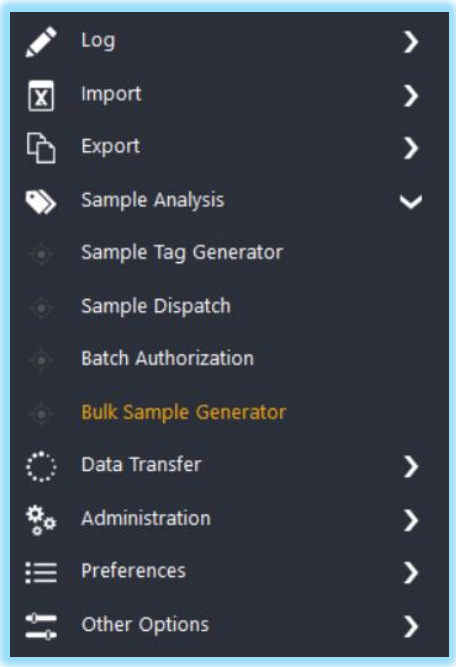
Samples can be selected for reanalysis by either adding samples to a new or existing sample dispatch. Select the samples and then use the **Add to Dispatch** toolbar button.

Samples can be selected, and users can add comments and/or assign custom actions using the **Edit** toolbar button. This information is stored in the DHL_SAMPLE_COLUMN_DETAILS table. Custom actions are added in the Object Audit Code table in Fusion Administrator.

To associate a file (eg. Laboratory Exceptions Report) with a Batch use the **Attach File** toolbar button.

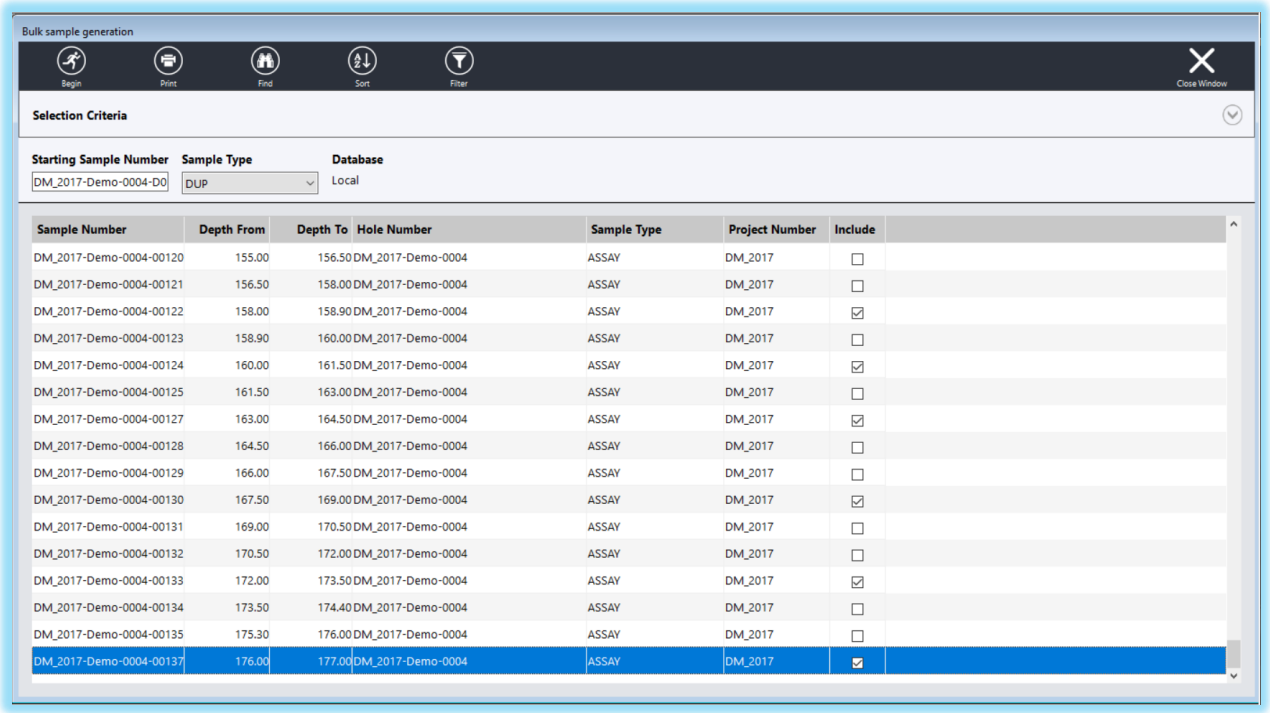
SAMPLE ANALYSIS: BULK SAMPLE GENERATOR

The ability to create multiple new samples based off a selected set of samples in the database. This generator is accessed from the **Sample Analysis > Bulk Sample Generator** menu.



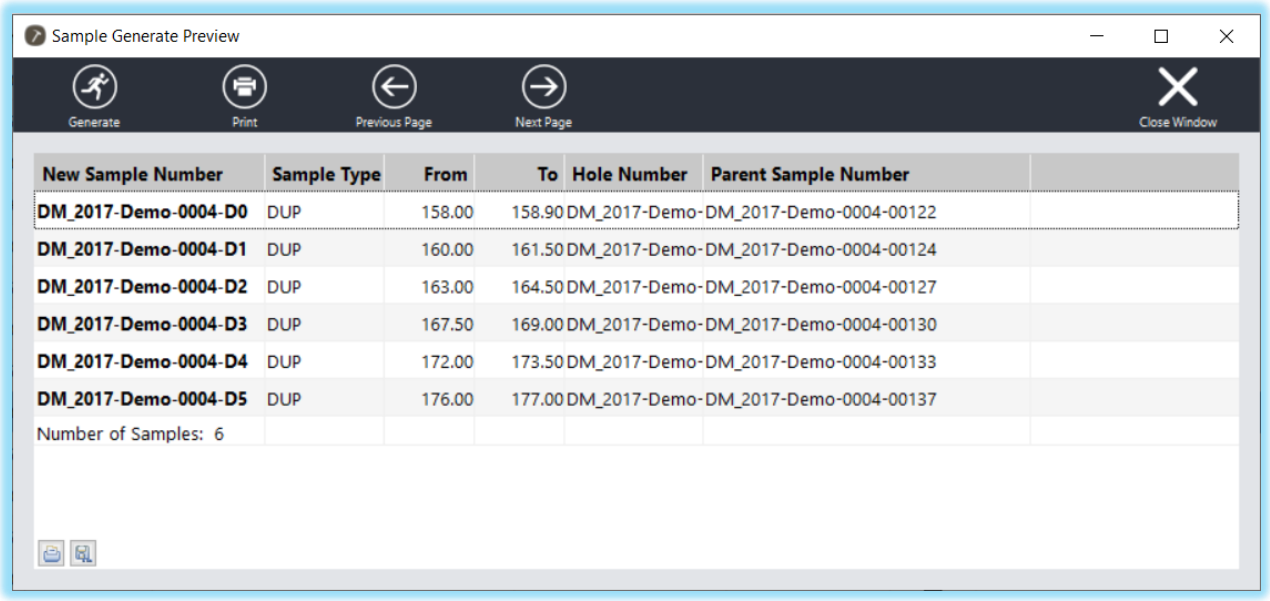
The Bulk Sample Generation window displays the list of samples in the database belonging to holes that are Checked Out (or MIXED, with Samples table Checked Out).

After selecting the samples you want to create duplicates of, specify a **Starting Sample Number** and choose a **Sample Type**, then click the Begin button to generate the new samples.



Sample Number	Depth From	Depth To	Hole Number	Sample Type	Project Number	Include
DM_2017-Demo-0004-00120	155.00	156.50	DM_2017-Demo-0004	ASSAY	DM_2017	☐
DM_2017-Demo-0004-00121	156.50	158.00	DM_2017-Demo-0004	ASSAY	DM_2017	☐
DM_2017-Demo-0004-00122	158.00	158.90	DM_2017-Demo-0004	ASSAY	DM_2017	☑
DM_2017-Demo-0004-00123	158.90	160.00	DM_2017-Demo-0004	ASSAY	DM_2017	☐
DM_2017-Demo-0004-00124	160.00	161.50	DM_2017-Demo-0004	ASSAY	DM_2017	☑
DM_2017-Demo-0004-00125	161.50	163.00	DM_2017-Demo-0004	ASSAY	DM_2017	☐
DM_2017-Demo-0004-00127	163.00	164.50	DM_2017-Demo-0004	ASSAY	DM_2017	☑
DM_2017-Demo-0004-00128	164.50	166.00	DM_2017-Demo-0004	ASSAY	DM_2017	☐
DM_2017-Demo-0004-00129	166.00	167.50	DM_2017-Demo-0004	ASSAY	DM_2017	☐
DM_2017-Demo-0004-00130	167.50	169.00	DM_2017-Demo-0004	ASSAY	DM_2017	☑
DM_2017-Demo-0004-00131	169.00	170.50	DM_2017-Demo-0004	ASSAY	DM_2017	☐
DM_2017-Demo-0004-00132	170.50	172.00	DM_2017-Demo-0004	ASSAY	DM_2017	☐
DM_2017-Demo-0004-00133	172.00	173.50	DM_2017-Demo-0004	ASSAY	DM_2017	☑
DM_2017-Demo-0004-00134	173.50	174.40	DM_2017-Demo-0004	ASSAY	DM_2017	☐
DM_2017-Demo-0004-00135	175.30	176.00	DM_2017-Demo-0004	ASSAY	DM_2017	☐
DM_2017-Demo-0004-00137	176.00	177.00	DM_2017-Demo-0004	ASSAY	DM_2017	☑

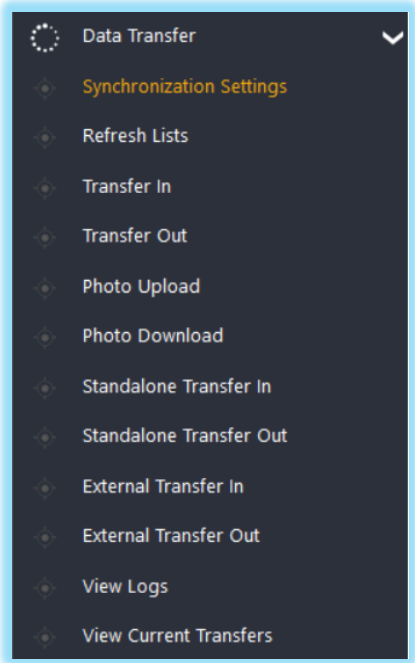
A preview window appears to confirm the samples that will be created once the Generate button is clicked.

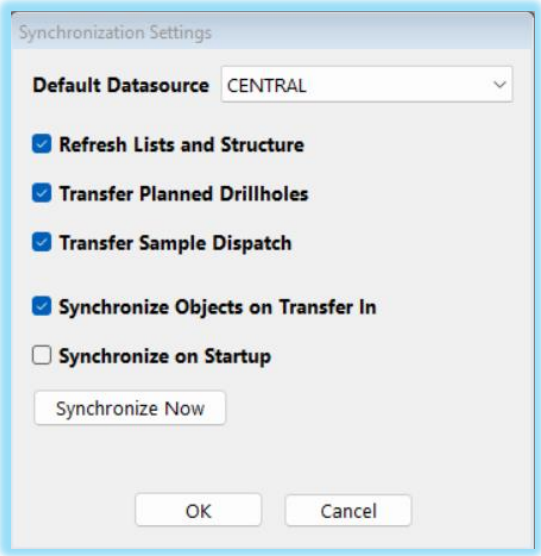


DATA TRANSFER

SYNCHRONIZATION SETTINGS

Open the Synchronization Settings configuration window by clicking the **Data Transfer > Synchronization Settings** menu.





Default Datasource: choose the DSN to be used as the source for the synchronization listed below. It will also be used as the DSN (along with Local) for **Quick Transfer** actions.

The ability to control which actions occur during Synchronization is available with checkboxes for the following items:

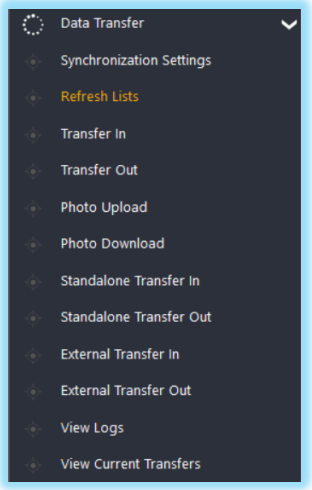
- Refresh Lists and Structure
- Transfer Planned Drillholes
- Transfer Sample Dispatch

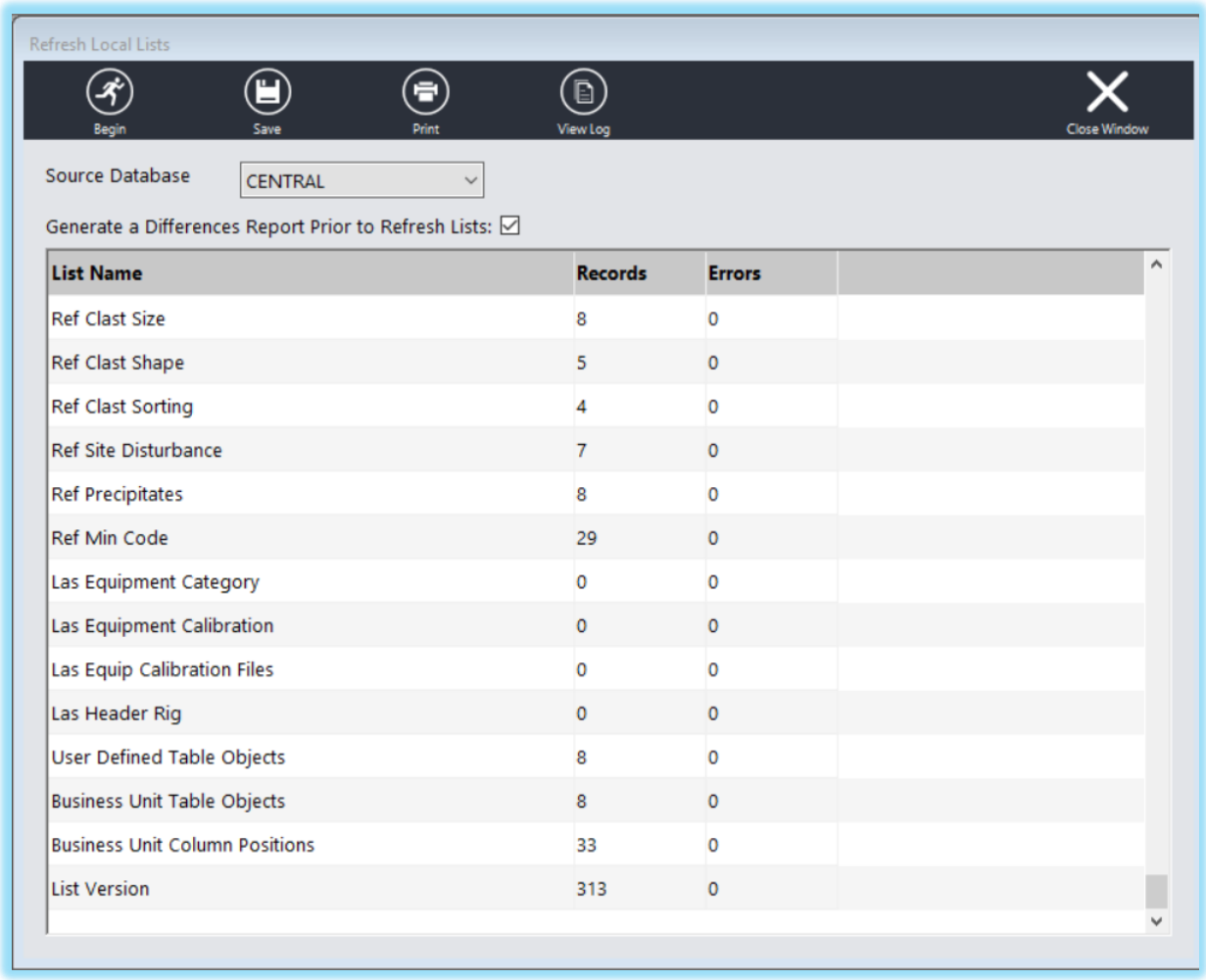
There is also the ability to control, with the **Synchronize Objects on Transfer In** and **Synchronize on Startup** checkboxes, whether the sync will happen during the Transfer In process and/or when DHLogger is started.

Additionally, there is a **Synchronize Now** button that can be used to immediately execute the actions that are checked (enabled).

REFRESH LISTS

To ensure that all lists are current, a manual Refresh Lists of all lists (not just those that have been identified as changed) can be initiated by clicking the **Data Transfer > Refresh Lists** menu.





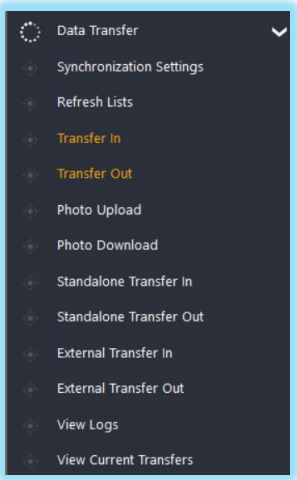
List Name	Records	Errors
Ref Clast Size	8	0
Ref Clast Shape	5	0
Ref Clast Sorting	4	0
Ref Site Disturbance	7	0
Ref Precipitates	8	0
Ref Min Code	29	0
Las Equipment Category	0	0
Las Equipment Calibration	0	0
Las Equip Calibration Files	0	0
Las Header Rig	0	0
User Defined Table Objects	8	0
Business Unit Table Objects	8	0
Business Unit Column Positions	33	0
List Version	313	0

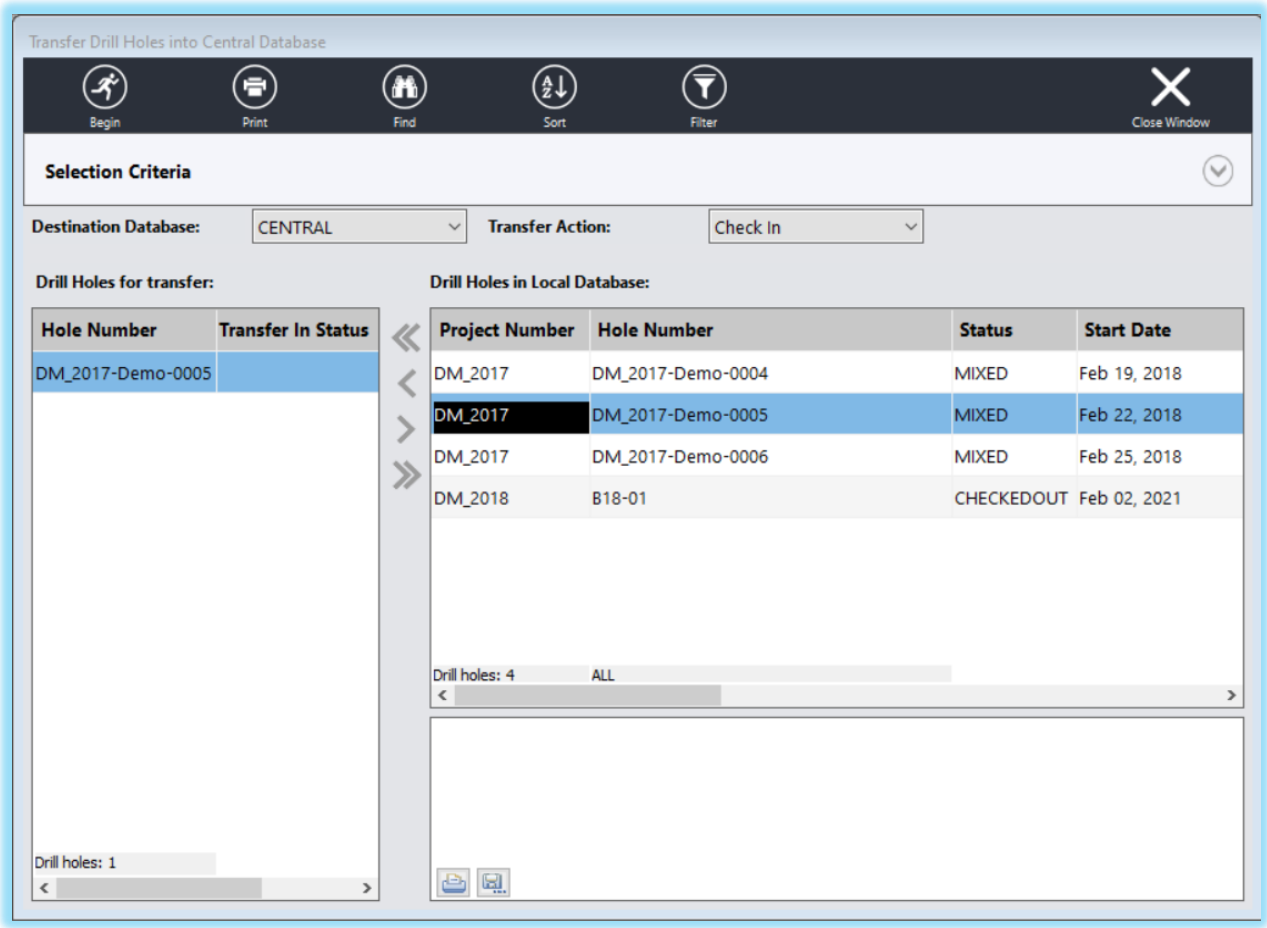
Source Database: choose the datasource from which to refresh lists

Generate a Differences Report: an option to query the databases to determine which tables have differences.

TRANSFER IN, TRANSFER OUT

Open the Transfer In and Transfer Out windows by clicking the appropriate items under the **Data Transfer** menu.





Transfer In window

The **Transfer In** window allows you to select the **Destination Database**. The picklist varies depending on the current database that you are logged into: Local – list shows Central and FusionRemote if it exists; FusionRemote – list shows only Central

There is also a picklist for the **Transfer Action** which gives the options of Check In or Copy In.

The **Transfer Out** window allows you to select the **Source Database**. The picklist varies depending on the current database that you are logged into: Local – list shows Central and FusionRemote, if it exists; FusionRemote – list shows only Central.

There is also a picklist for the **Transfer Action** which gives the option of Check Out or Copy Out.

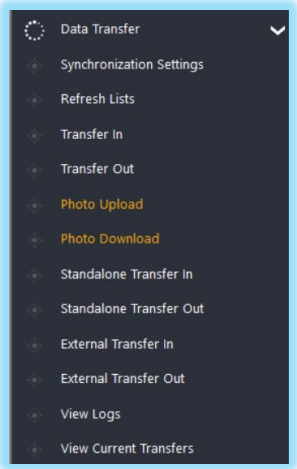
If Selective Transfer is enabled there is an additional toolbar item that allows for the selection of tables to transfer.

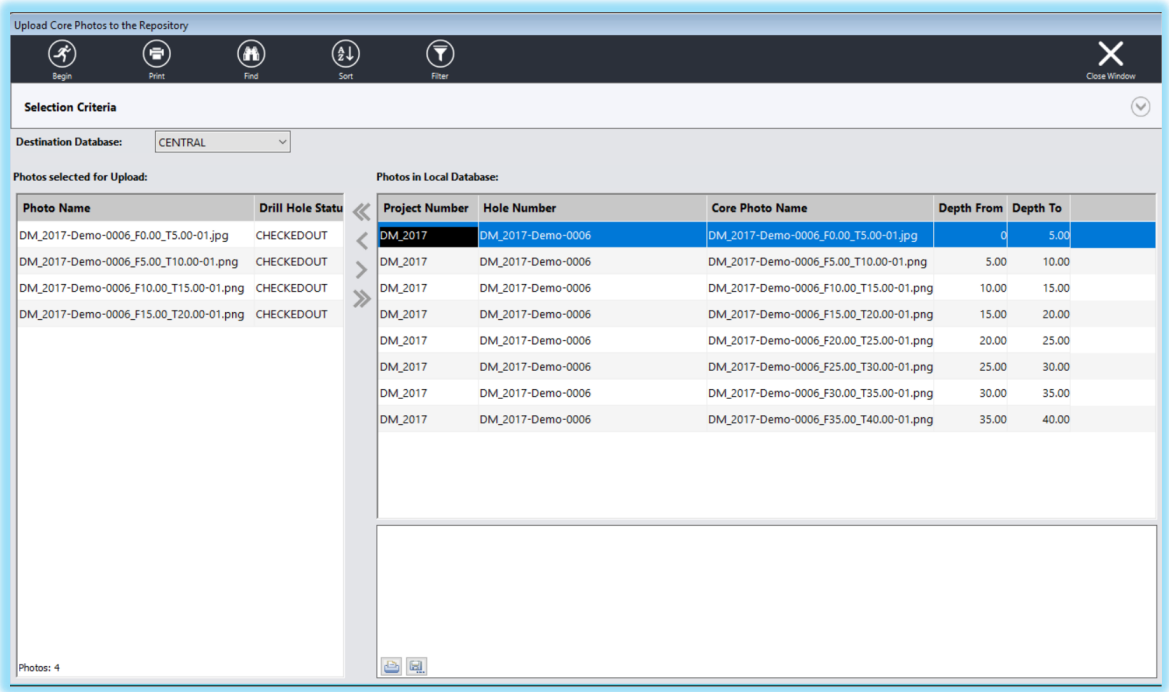
PHOTO UPLOAD, PHOTO DOWNLOAD

The management of Core Photos is aided by the Photo Upload and Photo Download windows. This allows users to transfer the actual photo images that are associated with drill holes from a storage location that is defined in one database to the storage location that is defined in another database. This photo transfer will enable the storage of all core photos in a centralized location, from which other users can download photos to their local machines (or to a remote server), or from which they can choose to view the images when in DHLogger.

The transfer of photos can be performed following the transfer of drill holes, where the user is prompted to move the photos (or it can occur automatically, if the preference to prompt is disabled). Optionally, users can upload / download the photos without a transfer of any drill holes.

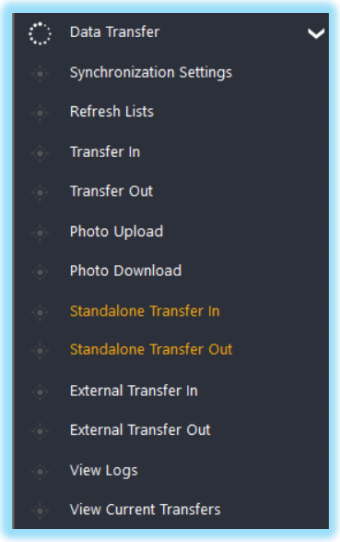
Open the Photo Upload and Photo Download windows by clicking the appropriate item under the **Data Transfer** menu.

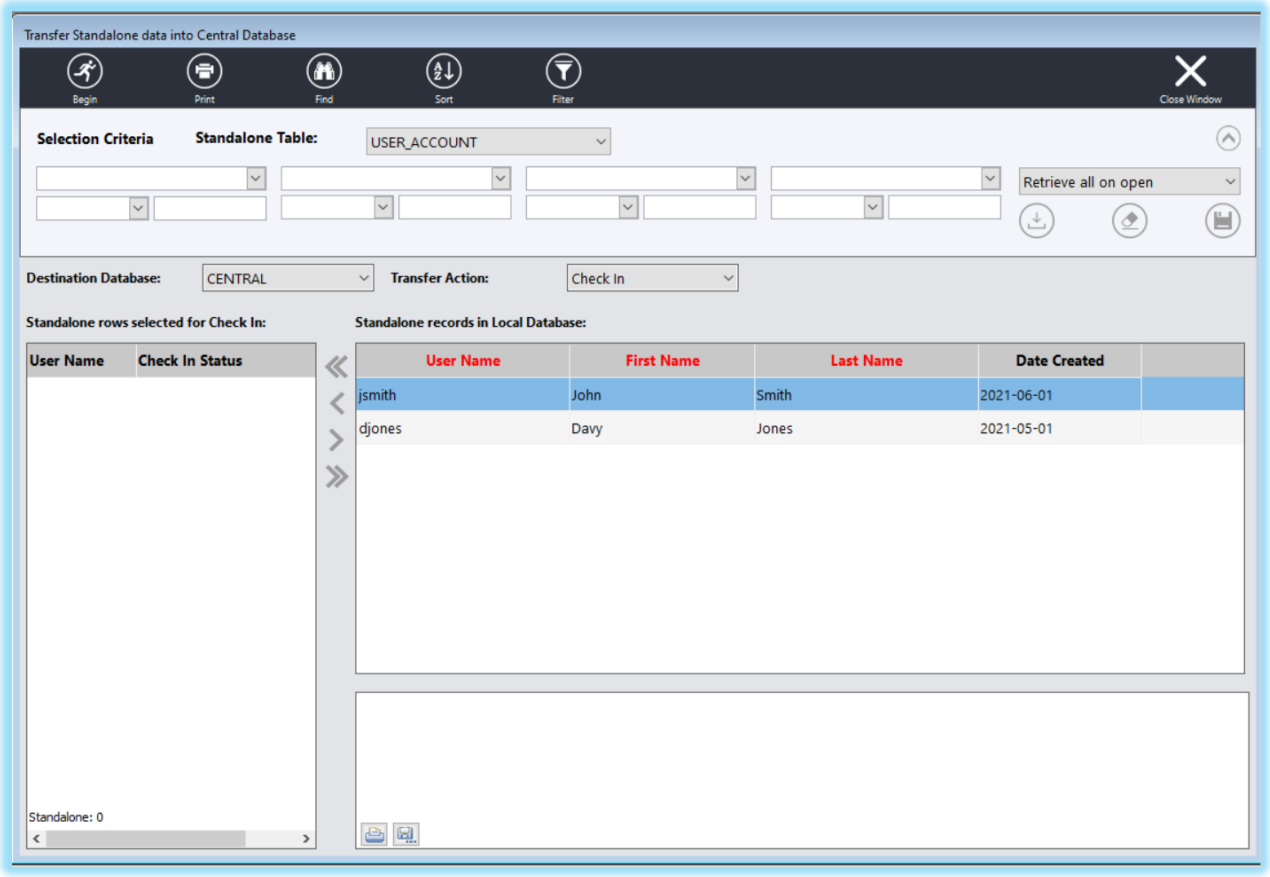




STANDALONE TRANSFER IN, STANDALONE TRANSFER OUT

Open the Standalone Transfer In and Standalone Transfer Out windows by clicking the appropriate items under the **Data Transfer** menu.





Standalone Transfer In window

The **Standalone Transfer In** window requires you to select the **Standalone Table** from which you will be selecting individual records to transfer. If the chosen table is a Parent table, then all associated records in each of its Child tables will also be transferred.

There is a **Destination Database** picklist with contents that vary depending on the current database that you are logged into: Local – list shows Central and FusionRemote if it exists; FusionRemote – list shows only Central.

There is also a picklist for the **Transfer Action** which gives the options of Check In or Copy In.

The **Standalone Transfer Out** window requires the selection of a **Table** from which individual records can be selected.

This window allows you to select the **Source Database**. The picklist varies depending on the current database that you are logged into: Local – list shows Central and FusionRemote, if it exists; FusionRemote – list shows only Central.

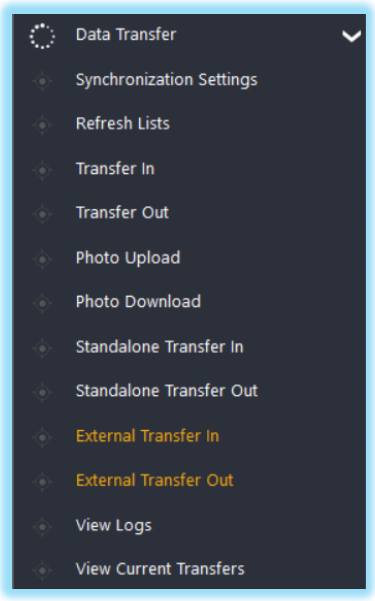
There is also a picklist for the **Transfer Action** which gives the option of Check Out or Copy Out.

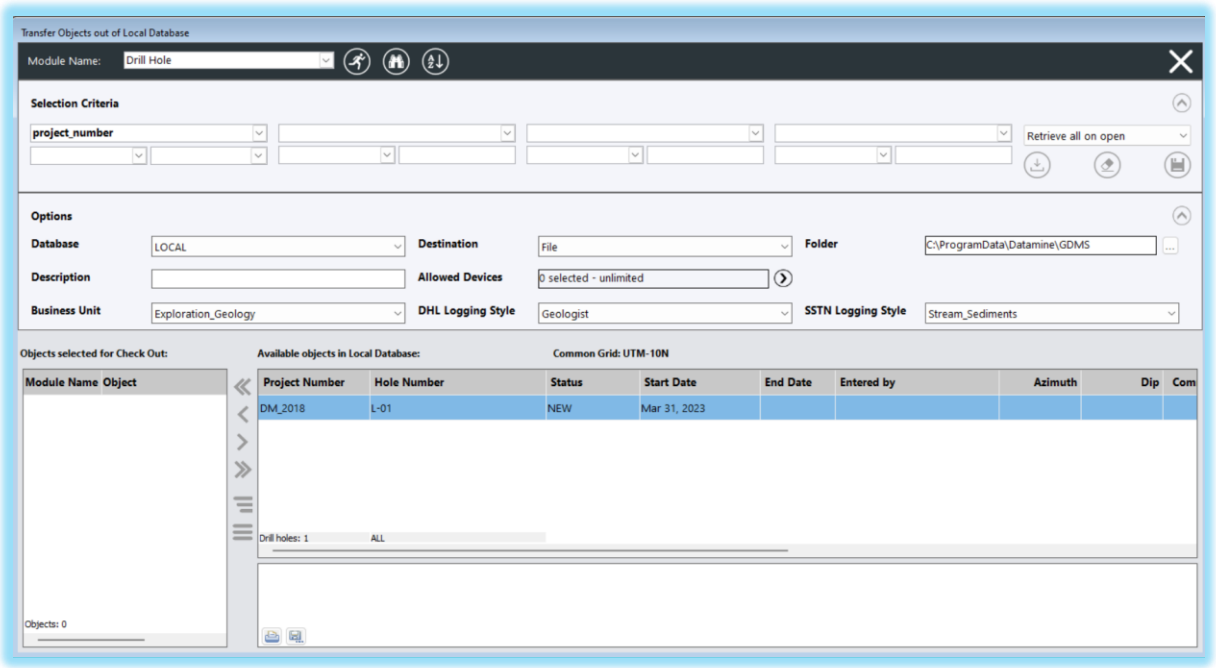
EXTERNAL TRANSFER IN, EXTERNAL TRANSFER OUT

External Transfer In and Out windows allow you to transfer data to and from external applications. The current formatting is compatible with the Datamine QuickLogger application.

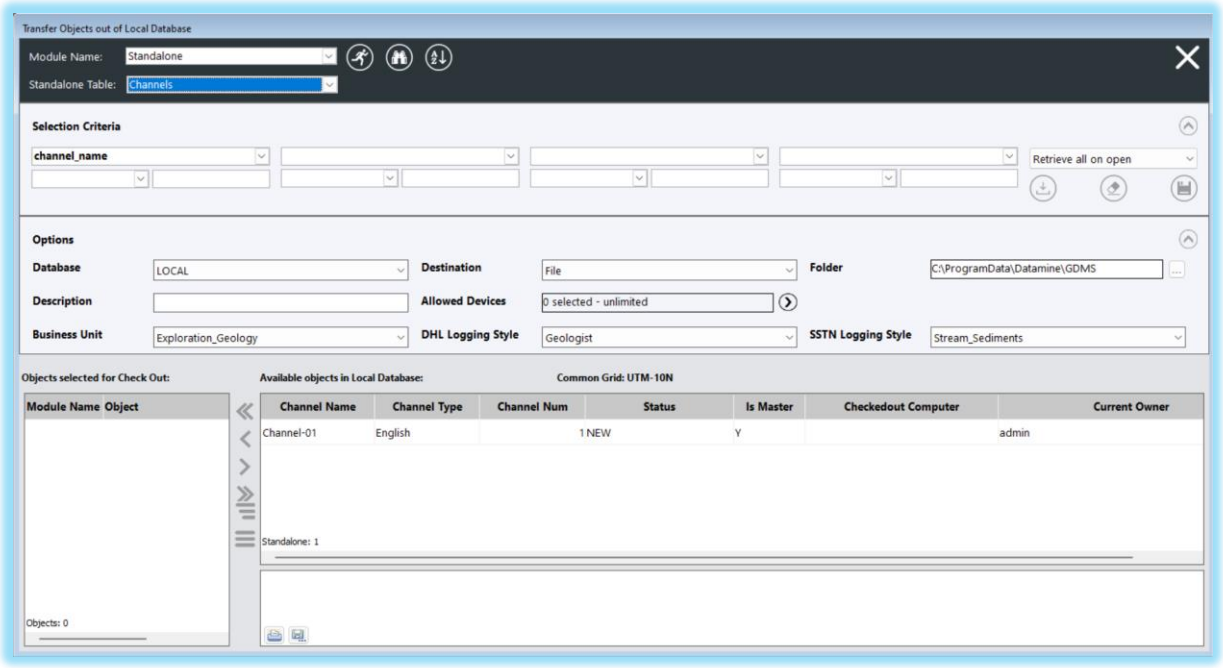
Data in DHLogger can be transferred to QuickLogger with the help of the “External Transfer Out” window and it can be imported back to DHLogger with the help of the “External Transfer In” window.

Open the **External Transfer In** and **External Transfer Out** windows by clicking the appropriate items under the **Data Transfer** menu. These windows are accessible against the Local and FusionRemote databases.





External Transfer Out window – Drill Holes



External Transfer Out window - Standalone Tables

External Transfer Out window allows you to select the type of data you want to transfer out of Fusion. The records that are transferred receive a status of “External” in the database and become non-editable in Fusion.

Module Name picklist provides the option to transfer data from either Drill Hole or Standalone module.

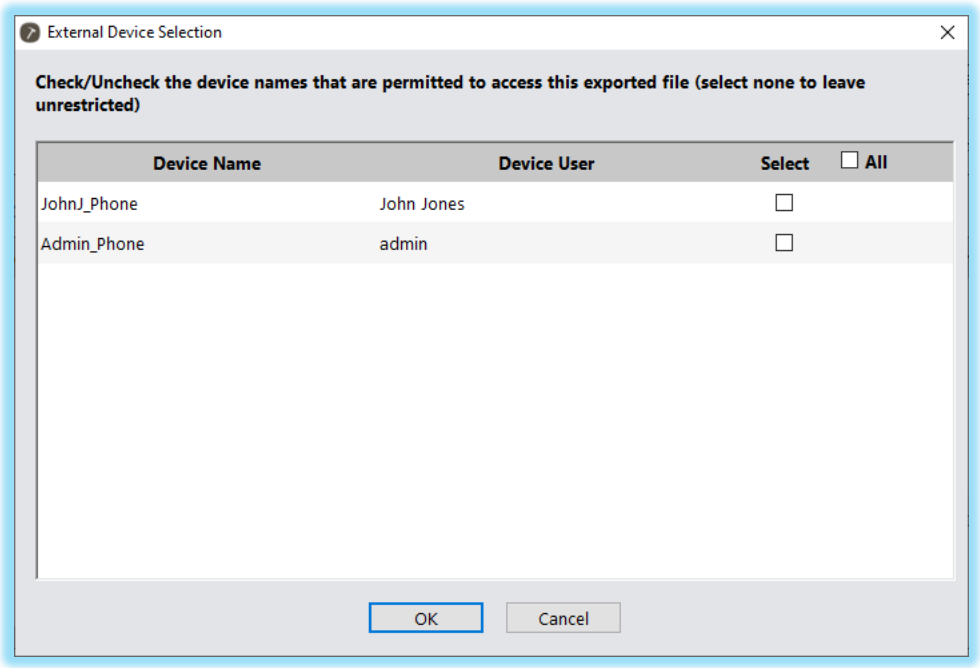
If the Standalone module is selected, you then choose a **Standalone Table**, from which you can select the individual rows to export (related table records will also be transferred). NOTE: the list is limited to Standalone Tables that have had a key added for them in Fusion Administration.

Database picklist allows for the selection of the source of the data for export.

Destination picklist allows you to select *File*, where you then choose the **Folder** that determines where the exported structure/data will be saved as a JSON-formatted file.

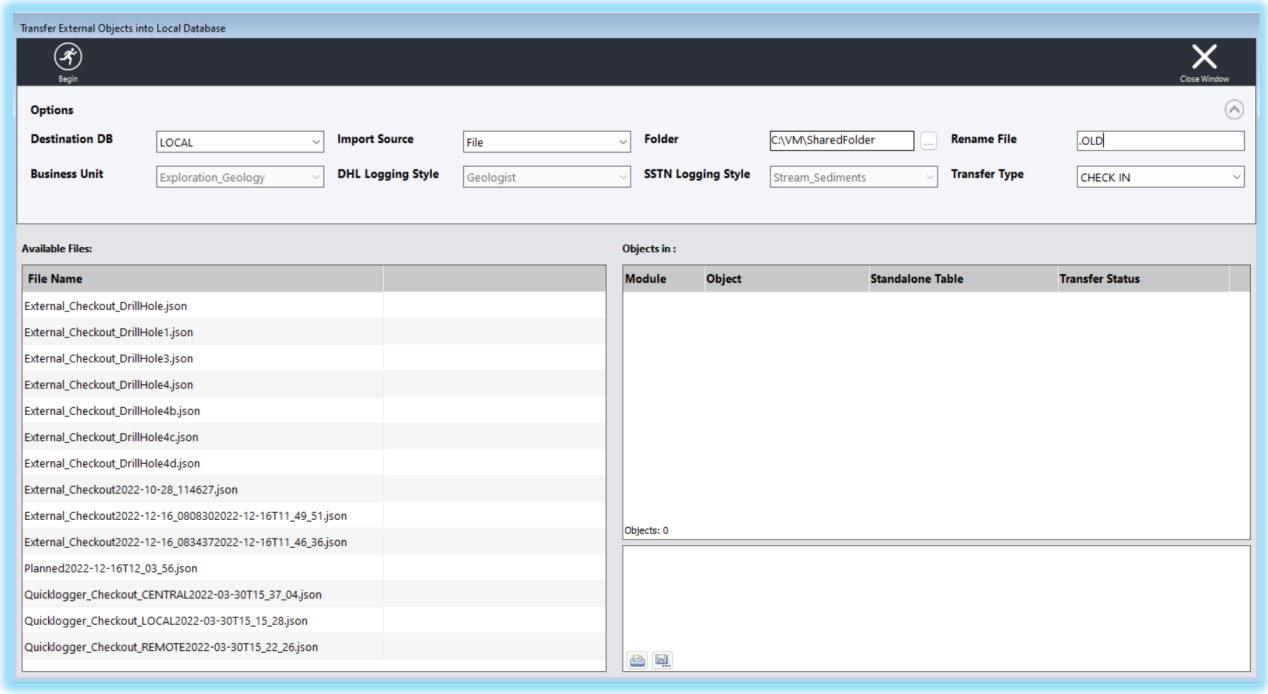
Alternatively, the destination can be *Database*. The exported data will be stored in the External_Transfer table where it will then be visible in the QuickLogger app as a workfile with the provided **Description** which is available to be imported.

Allowed Devices displays a count of the number of the devices that have been selected to have permission to access this JSON file through QuickLogger import. If no specific devices are chosen, then the file is unrestricted and the file can be imported on any device. Device selection is performed by hitting the arrow (>) button, and choosing from the licensed device list.



Business Unit, DHL Logging Style, SSTN Logging Style picklists determine the structure (and data) that will be exported from the database.

If no objects are selected and the Begin button is clicked, an export file is still created, however it will only contain the database structure and reference lists that are accessible by the chosen Business Unit and Logging Styles.



External Transfer In window

External Transfer In window allows you to import data for drill holes, surface samples and standalone tables. Data exported from the QuickLogger app can be imported to Fusion with the help of this window.

Destination DB picklist allows you to specify the destination for the imported data.

Import Source picklist allows you to select *File*, where you then choose the **Folder** that contains the JSON files available for import, and allows you to provide an extension to **Rename File** following a successful import.

Alternatively, the source can be *Database.* This source will provide a list of Available Files from the connected database that have been inserted to the External_Transfer table from QuickLogger and the webservice. The list contents may also be filtered based on the current user and the active business unit. An enhanced profile (EXTERNAL IMPORT ADMINISTRATOR) may also impact the visible file.

Business Unit, DHL Logging Style, SSTN Logging Style picklists are not editable and reflect the properties of the chosen file. They default to the current user's active settings until a file is selected.

Transfer Type picklist allows you to specify Check In or Copy In.

An alternative to the use of the External Transfer In window is to use command line arguments that run an import silently:

/S
/EXTERNAL=QL;DSN=*dsnname***;AUTH=***authentication***;UID=***userid***;PWD=***password***;DHLLOGSTYLE=***dhl_lo*

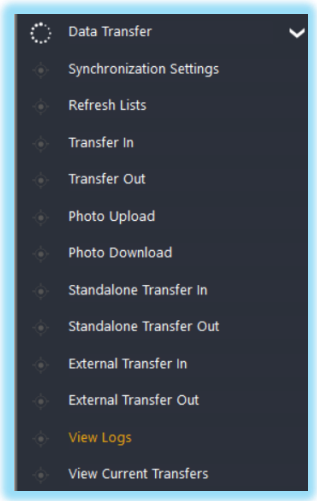
ging_style;**SSTNLOGSTYLE=***sstn_logging_style*;**BUSINESSUNIT=***business_unit*;**IMPORTSOURCE=***importsource*;**IMPORTPATH='***pathname***';TRANSFERTYPE=***transfer_type*;**TRANSFERID='***transfer_id***'**

Note: all of the bold text is required, including single-quotes around pathname and transfer_id, even when not applicable/empty

DSN	*dsnname*	LOCAL / FUSIONREMOTE / CENTRAL
AUTH	*authentication*	DB / NT (user authentication)
UID	*userid*	User ID to connect to the DSN (empty if NT)
PWD	*password*	Password to connect to the DSN (empty if NT)
DHLLOGSTYLE	*dhl_logging_style*	Set the default active logging style for the import
SSTNLOGSTYLE	*sstn_logging_style*	Set the default active sample station logging style for the import
BUSINESSUNIT	*business_unit*	Set the default active business unit for the import
IMPORTSOURCE	*importsource*	FILE / DATABASE
IMPORTPATH	*importpath*	Foldername containing valid files for importing; empty if importsource = DATABASE
TRANSFERTYPE	*transfer_type*	COPY IN / CHECK IN
TRANSFERID	*transfer_id*	Specifies an individual file, found in importpath when importsource = FILE; specifies the ID an individual queued entry in External_Transfer table; if the value is left empty the transfer will attempt all files or queued entries, depending on the importsource

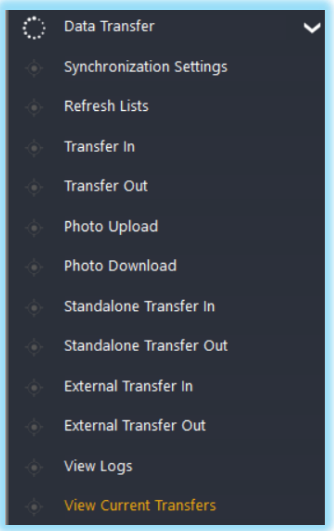
VIEW LOGS

A window that shows the logs from recent transfers can be accessed by clicking the **Data Transfer** menu.



VIEW CURRENT TRANSFERS

A slideout will appear that shows the status of the current transfer when clicking the **Data Transfer > View Current Transfers** menu item.

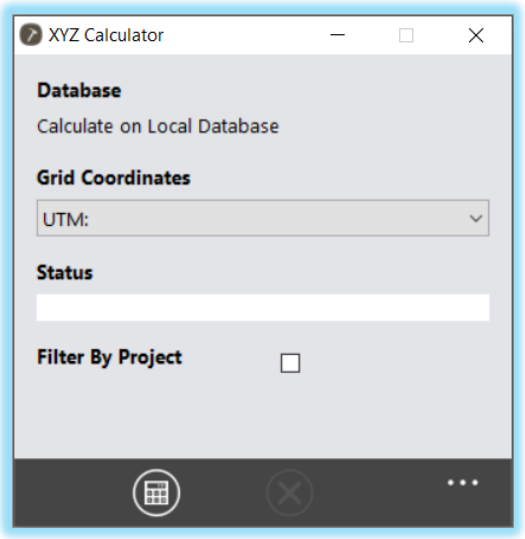


ADMINISTRATION

There are several windows within DHLogger that allow users to perform some administrative duties.

CALCULATE XYZ

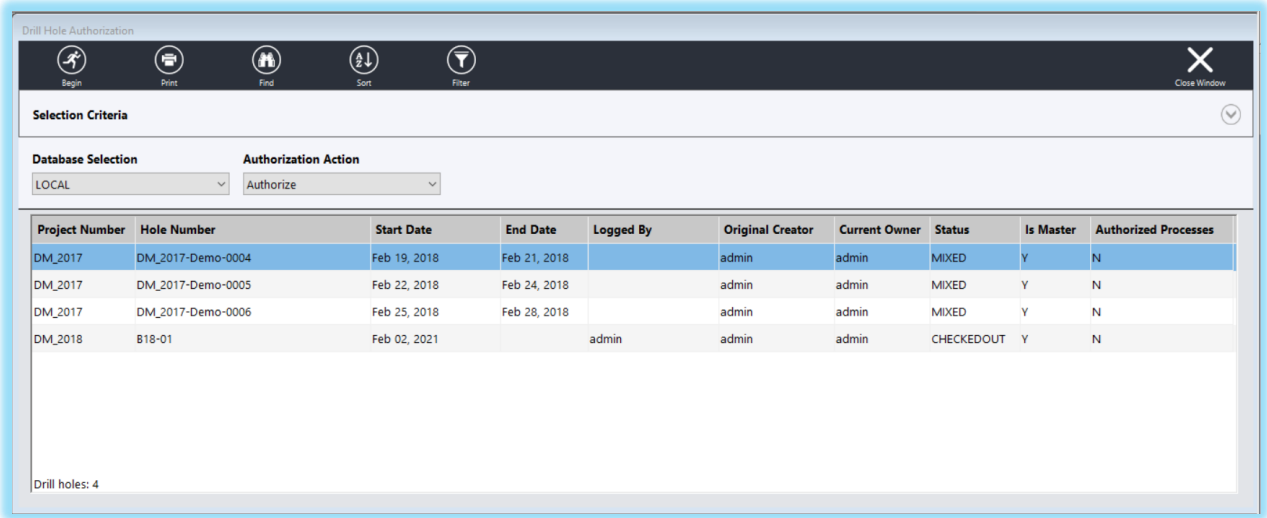
This utility allows you to update the x-location, y-location and z-location of drill hole samples of type 'ASSAY', using the collar's azimuth and dip, and the hole's coordinate values. The values are updated in the HOLE_ASSAY_SAMPLE table.



DRILL HOLE AUTHORIZATION

This module allows you to finalize and sign-off on the drill hole data. If configured, validation rules are executed to confirm that required data exists, that the logged data meets specific business rules, and that the hole is ready to be Authorized. The status of the hole will be changed, and it essentially becomes 'Read Only', preventing further editing. If changes need to be made to the drill hole, it can be Reopened from this same window with a change to the Authorization Action.

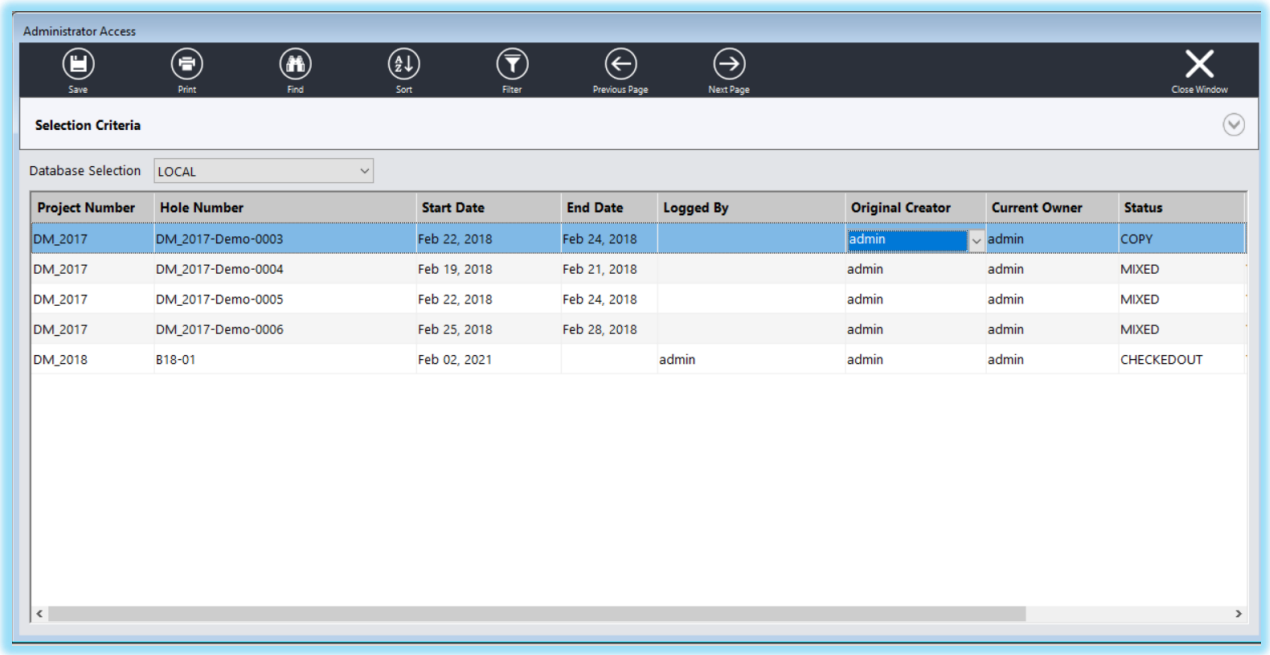
NOTE: The user must be granted the CERTIFIED_PERSON profile in Fusion Administrator in order to see this menu item.



ADMINISTRATOR ACCESS

From this window, an Administrator can modify the Original Creator, Current Owner, Status and Is Master values for drillholes. Since these are fields that are typically handled by the application itself depending on the actions taken on the drill hole, it is critically important that the Administrator understand the consequences of their changes, and ensure that status changes in one database are properly considered for versions of the same holes in other databases (so that one doesn't end up with multiple 'master' versions of the same drillhole).

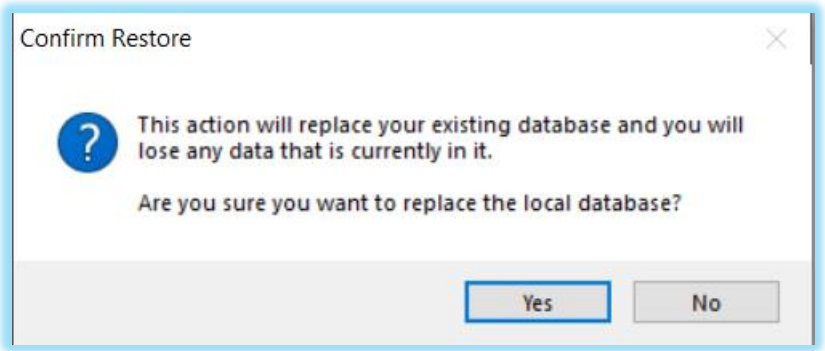
NOTE: In order to see this menu item, either the ADMINISTRATOR profile or Role_Century_Admin granted to your user.



Project Number	Hole Number	Start Date	End Date	Logged By	Original Creator	Current Owner	Status
DM_2017	DM_2017-Demo-0003	Feb 22, 2018	Feb 24, 2018		admin	admin	COPY
DM_2017	DM_2017-Demo-0004	Feb 19, 2018	Feb 21, 2018		admin	admin	MIXED
DM_2017	DM_2017-Demo-0005	Feb 22, 2018	Feb 24, 2018		admin	admin	MIXED
DM_2017	DM_2017-Demo-0006	Feb 25, 2018	Feb 28, 2018		admin	admin	MIXED
DM_2018	B18-01	Feb 02, 2021		admin	admin	admin	CHECKEDOUT

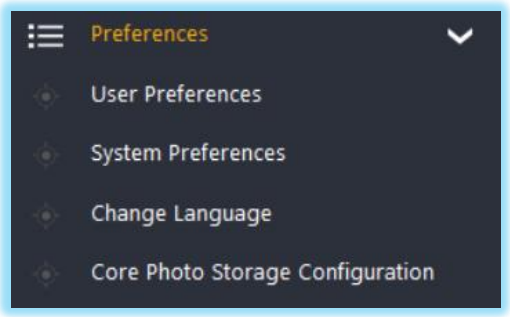
RESTORE LOCAL DATABASE

This menu item is available only to the 'admin' user, and it will replace your Local Database with one that exists in the database of your choosing. Below is the confirmation message shown when selecting this action.



PREERENCES

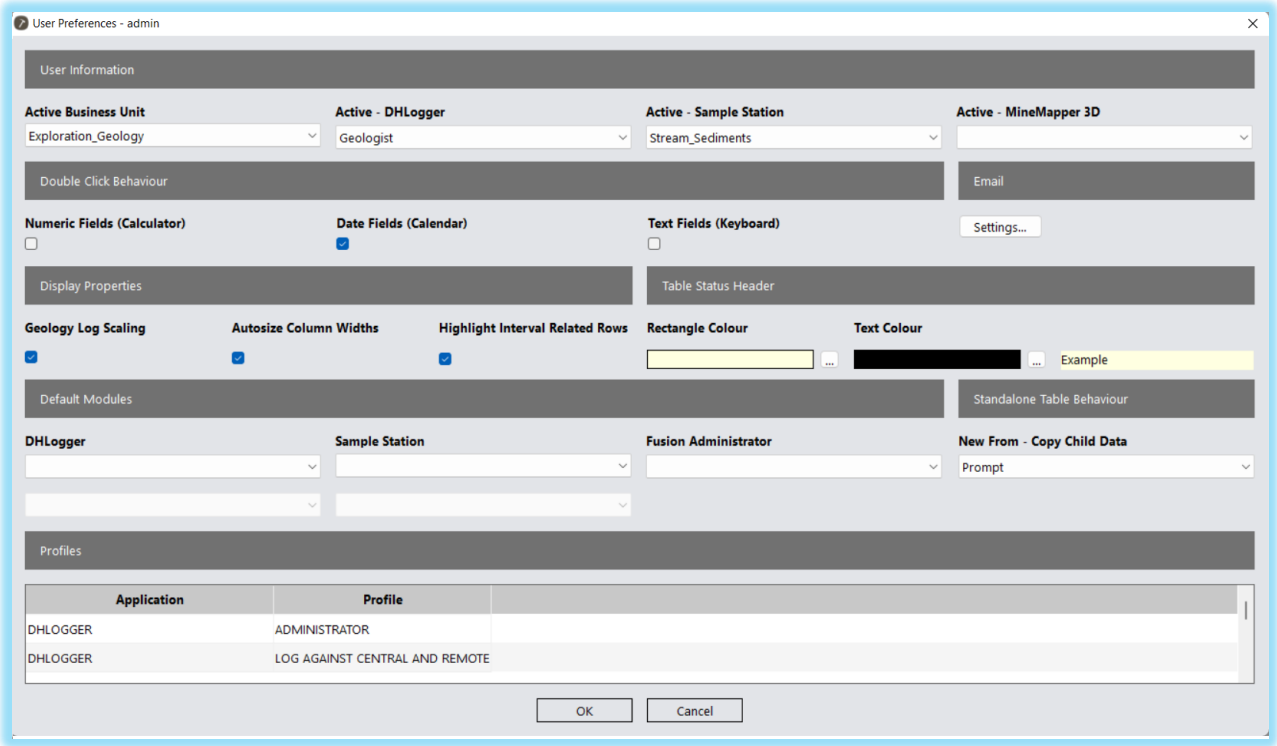
There are several windows within DHLogger that maintain preferences for various parts of the application.



USER PREFERENCES

The User Preferences window allows the user to specify their active business unit and logging styles, mouse behavior in DHLogger, default modules when starting the applications and general email settings for email notifications.

The User Preferences window is available from the **Preferences > User Preferences** menu.



User Information

- **Active Business Unit:** This is the business unit used by DHLogger for the current user if multiple business units are assigned to the user.
- **Active - DHLogger:** The active logging style used by DHLogger for the current user if multiple logging styles are assigned to the user.
- **Active - Sample Station:** The active logging style used by Sample Station for the current user if multiple logging styles are assigned to the user.
- **Active MineMapper 3D:** The active logging style used by MineMapper 3D for the current user if multiple logging styles are assigned to the user.

Double Click Behaviour

- This section identifies if the calculator, calendar, or keyboard is displayed when the user double clicks each of the different field types.

Email

- Settings button to define email settings for email notifications within DHLogger.

Display Properties

- **Geology Log Scaling:** Determines if the Major/Minor Geology Log is scaled relative to the smallest interval or each interval will display with a default height
- **Autosize Column Widths:** Autosizes the column widths in each grid style window to adjust to the size of the data in the field
- **Highlight Interval Related Rows:** In interval-related tables, the rows that do not belong to the currently selected major/minor will be highlighted in gray

Table Status Header

- Settings to configure the appearance of the header that displays the table's status in the Drill Hole Folder.

Default Modules

- Defines the default module to open automatically when the specified application starts up.

Standalone Table Behaviour

- New From - Copy Child Data defines how to process the child data during a 'New From' action on a parent standalone record: ALWAYS copy, NEVER copy, or PROMPT for user decision
- NOTE: Modular Samples will not be copied, since they must be unique in the database

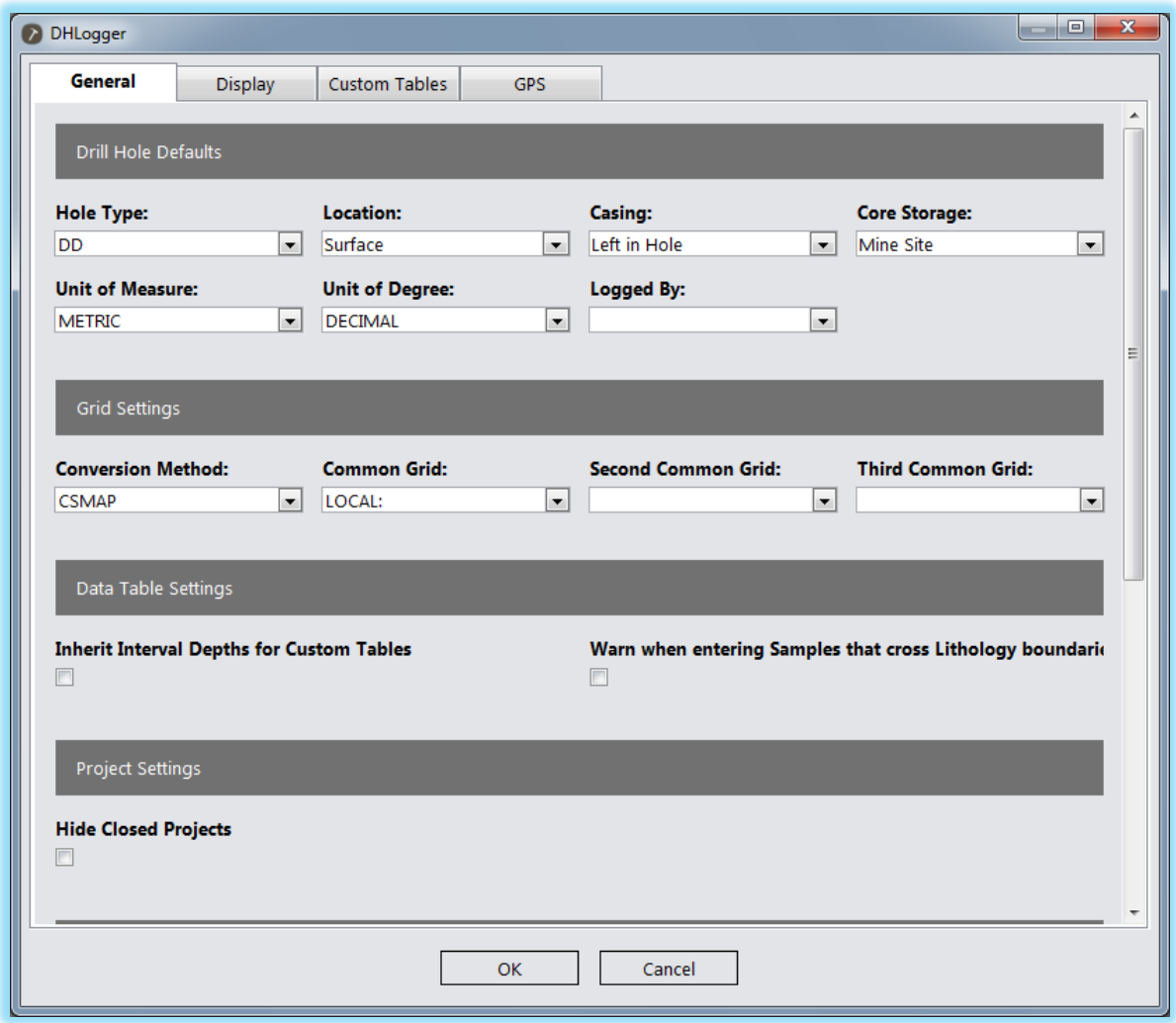
Profiles

- A visual list of profiles currently assigned to the logged in user.

SYSTEM PREFERENCES

The System Preferences window allows the user to specify program and file locations, default values or the appearance of data entry forms among other things.

The System Preferences window is available from the **Preferences > System Preferences** menu.



The System Preferences window is divided into four tabs.

General

- The General Perferences tab is used to set drill hole default field values, identify coordinate conversion settings, general table and project settings, and lab import defaults.

Display

- The Display tab contains properties on how the samples and custom tables are displayed.

Custom Tables

- This tab grants quick access to commonly used table and column properties for custom tables.

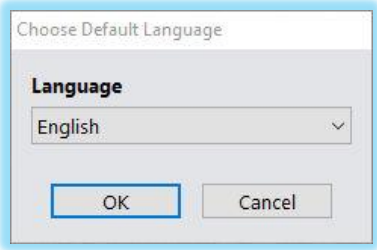
GPS

- This tab contains connection configuration for using a GPS with DHLogger.

CHANGE LANGUAGE

Changing the language in one application will affect the language, on the user's machine, in all the GDMS applications (Sample Station, DHLogger, Fusion Administrator).

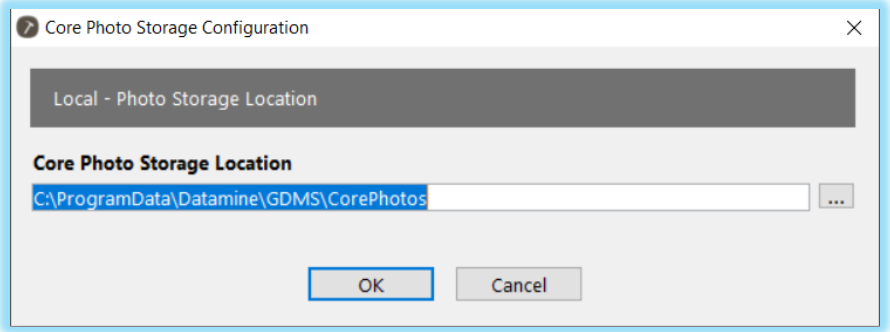
The Change Language window is available from the **Preferences > Change Language** menu.



CORE PHOTO STORAGE LOCATION

This configuration window will set the default location where the core photos that you import will be renamed and saved in individual folders for each drillhole.

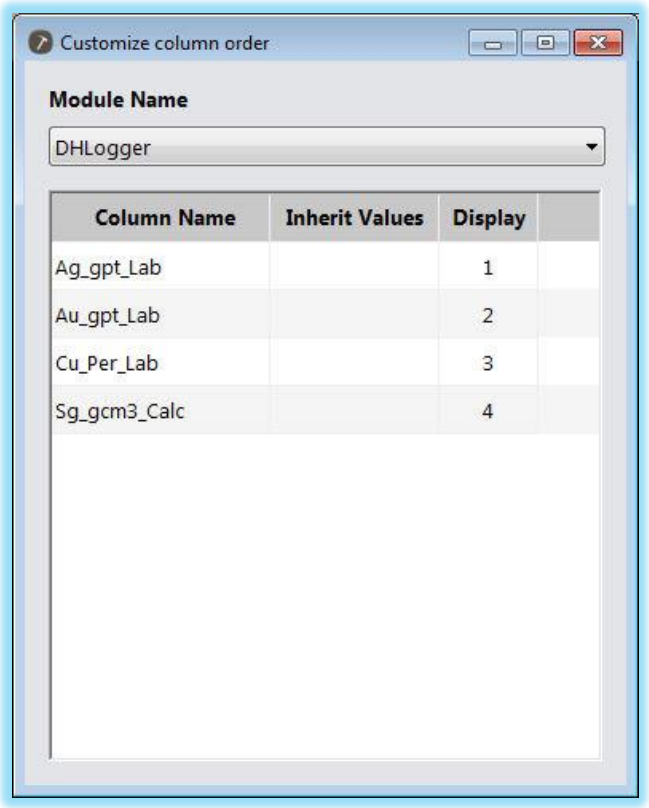
This window is available from the **Preferences > Core Photo Storage Configuration** menu.



CUSTOMIZE YOUR ASSAY SCREEN

From this window you can drag and drop the sample columns into the order desired. Alternatively, you can manually enter a display order number, where 0 implies not visible.

This window is accessible from the Drill Holes window, **Options > Customize your Assay Screen** menu.



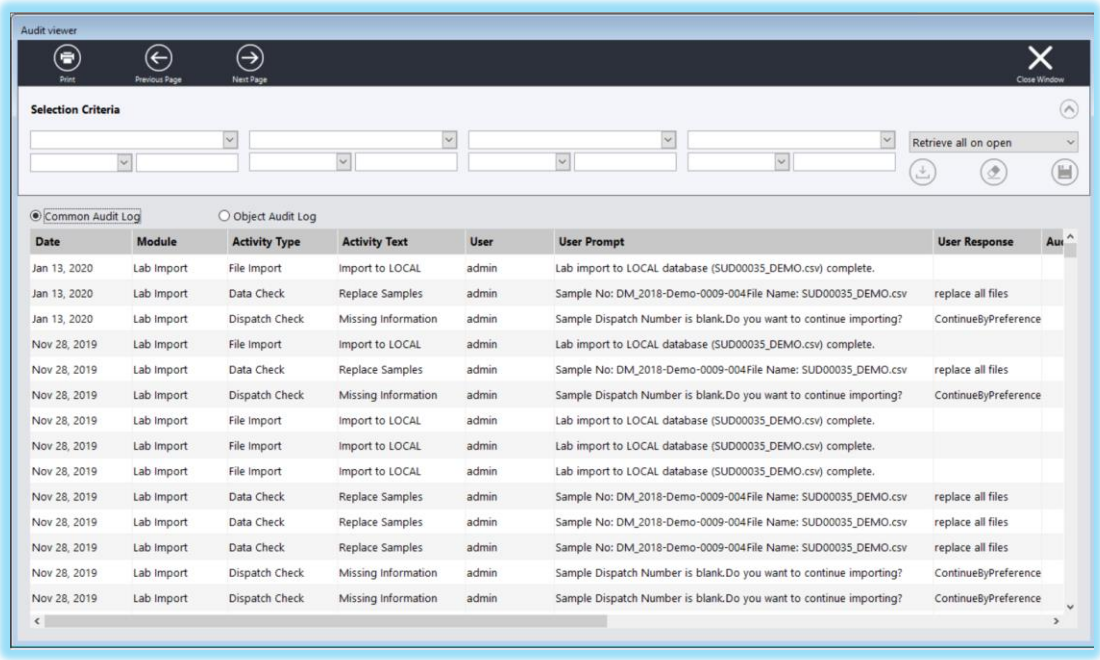
OTHER OPTIONS

There are several utilities within DHLogger described in the section that follows.

PRINTER SETUP

A quick window to select the default printer.

AUDIT LOG



Date	Module	Activity Type	Activity Text	User	User Prompt	User Response
Jan 13, 2020	Lab Import	File Import	Import to LOCAL	admin	Lab import to LOCAL database (SUD00035_DEMO.csv) complete.	
Jan 13, 2020	Lab Import	Data Check	Replace Samples	admin	Sample No: DM_2018-Demo-0009-004File Name: SUD00035_DEMO.csv	replace all files
Jan 13, 2020	Lab Import	Dispatch Check	Missing Information	admin	Sample Dispatch Number is blank.Do you want to continue importing?	ContinueByPreference
Nov 28, 2019	Lab Import	File Import	Import to LOCAL	admin	Lab import to LOCAL database (SUD00035_DEMO.csv) complete.	
Nov 28, 2019	Lab Import	Data Check	Replace Samples	admin	Sample No: DM_2018-Demo-0009-004File Name: SUD00035_DEMO.csv	replace all files
Nov 28, 2019	Lab Import	Dispatch Check	Missing Information	admin	Sample Dispatch Number is blank.Do you want to continue importing?	ContinueByPreference
Nov 28, 2019	Lab Import	File Import	Import to LOCAL	admin	Lab import to LOCAL database (SUD00035_DEMO.csv) complete.	
Nov 28, 2019	Lab Import	File Import	Import to LOCAL	admin	Lab import to LOCAL database (SUD00035_DEMO.csv) complete.	
Nov 28, 2019	Lab Import	File Import	Import to LOCAL	admin	Lab import to LOCAL database (SUD00035_DEMO.csv) complete.	
Nov 28, 2019	Lab Import	Data Check	Replace Samples	admin	Sample No: DM_2018-Demo-0009-004File Name: SUD00035_DEMO.csv	replace all files
Nov 28, 2019	Lab Import	Data Check	Replace Samples	admin	Sample No: DM_2018-Demo-0009-004File Name: SUD00035_DEMO.csv	replace all files
Nov 28, 2019	Lab Import	Data Check	Replace Samples	admin	Sample No: DM_2018-Demo-0009-004File Name: SUD00035_DEMO.csv	replace all files
Nov 28, 2019	Lab Import	Dispatch Check	Missing Information	admin	Sample Dispatch Number is blank.Do you want to continue importing?	ContinueByPreference
Nov 28, 2019	Lab Import	Dispatch Check	Missing Information	admin	Sample Dispatch Number is blank.Do you want to continue importing?	ContinueByPreference

This window, accessible from the **Other Options > Audit Log** menu, allows you to view an audit trail (record) of certain activities.

There are two categories of audit logging, which is stored in two different database tables:

- Common Audit Log, which tracks user decisions during Lab Import (continue with import despite warnings), Batch Authorization (status changes), Deletion of data (drillholes or surface samples), Authorizing data (drillholes, surface samples, processes)
- Object Audit Log, which tracks data changes, including old and new values, in objects that have been re-opened

Selection Criteria has been added to this window to assist with retrieval of the information that is most pertinent.

DRILL HOLE COSTING

The Costing module is available to track costs related to a project. There are many Costing Lists that can be customized to make use of this module to fit your needs. The entry of data is typically performed in the Central, so even while logged in to DHLogger to the Local Database, it attempts to make a connection to the Central DB.

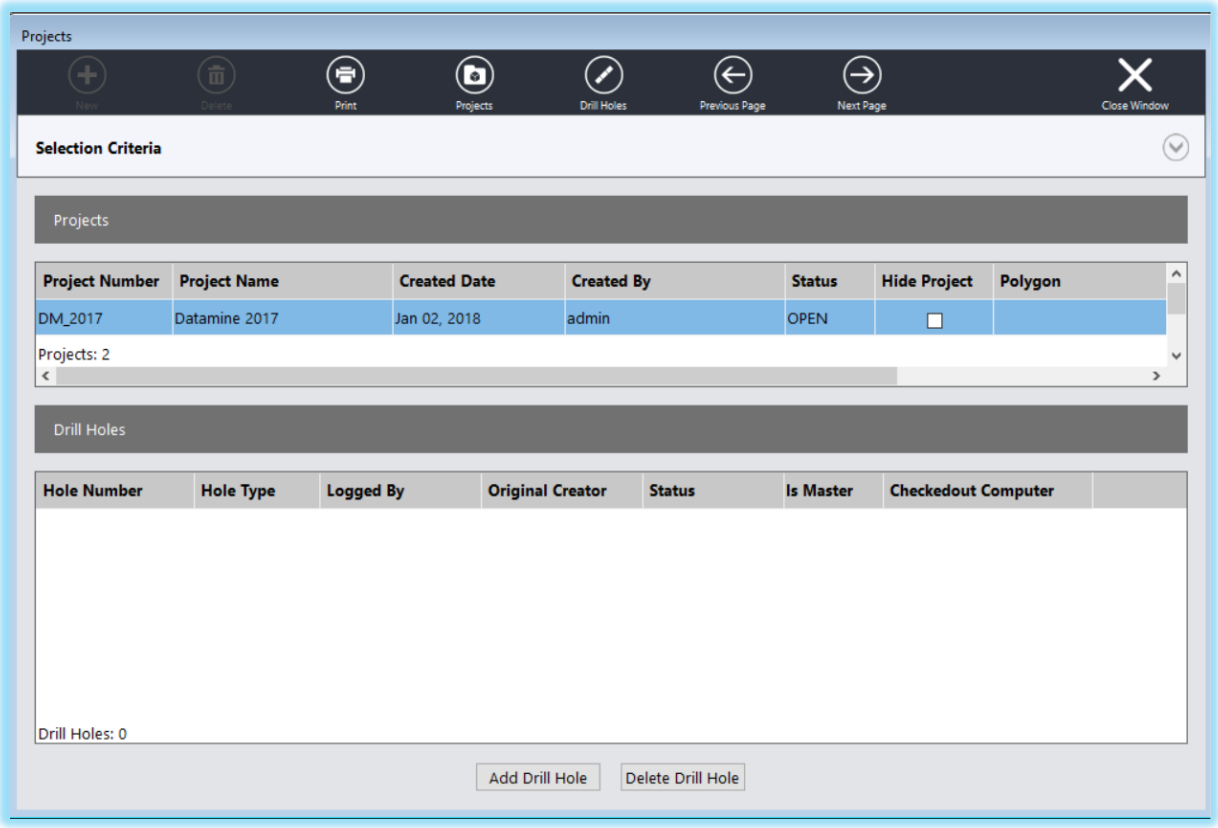
The Costing module can be accessed under the **Other Options > Drill Hole Costing** menu.

PROJECTS

Projects are used to group database records according to specific criteria. For example, a project may encompass all drilling done by a company in an entire country. Conversely, it may encompass as little as a few holes on a mine sublevel. Normally however, projects are set up to correspond to a mine property.

The Project window can be used for maintaining project records and drill holes. The Drill Hole Collar module should be used to access the detailed drill hole information.

The Project window can be accessed under the **Other Options > Projects** menu.



Project list window

ARCHIVED HOLES

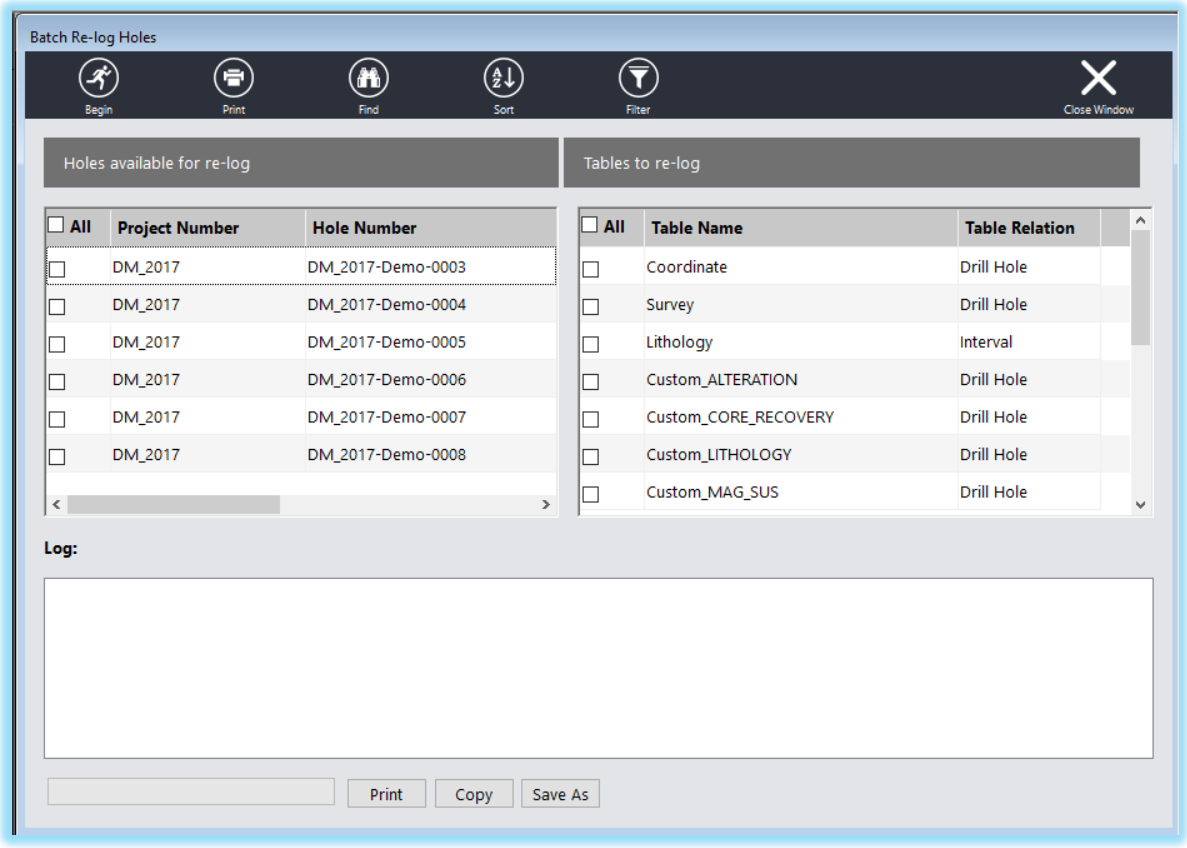
This window lists the Archived drill holes in the database – those that are archived during the Re-Log or Depth Adjustment process. The ability to restore tables or entire holes is available from this window. Since holes with a status of ARCHIVED are transferred automatically during any drill hole Transfer In, it is best to view the Archived holes and perform the Restore process when the hole is Checked In to the Central database.

This window is opened from the **Other Options > Archived Holes** menu.

BATCH RE-LOG HOLES

The Batch Re-log module is an extension of the Re-Log Hole utility that exists when editing a drill hole. This module allows you to select multiple holes to identify tables that you want to re-log. An archived drill hole is created for each of the selected holes, and the current holes have the selected tables cleared – ready for new data to be entered.

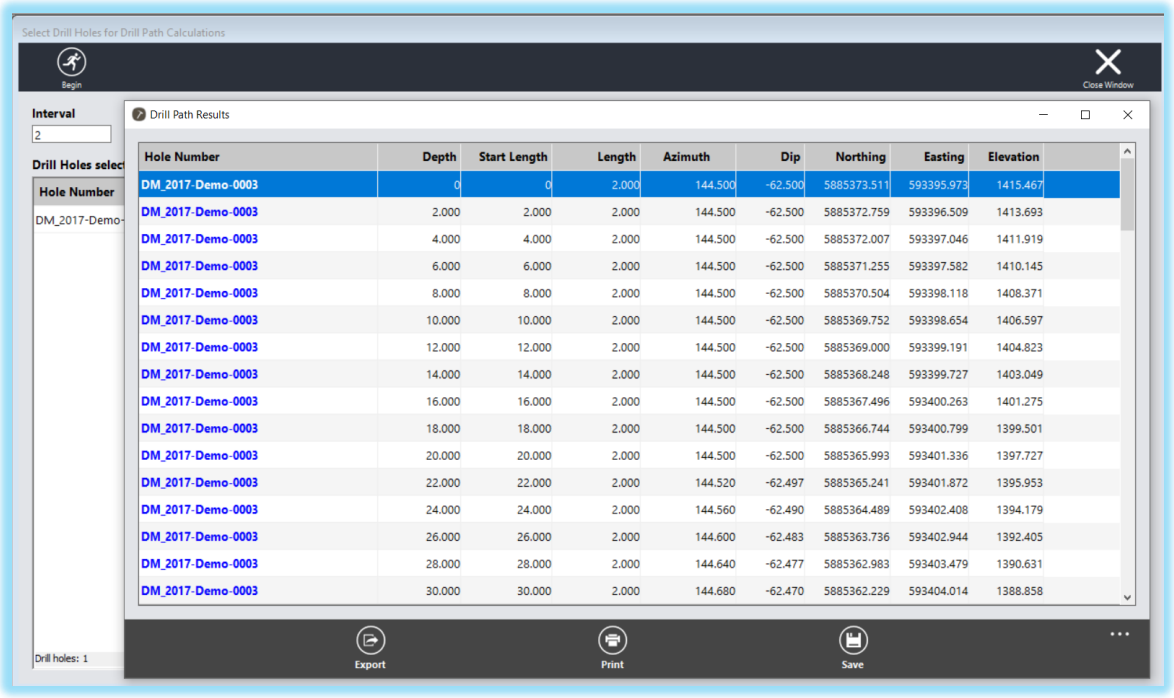
The Batch Re-log module can be opened from the **Other Options > Batch Re-Log Holes** menu.



The holes you see may depend on the projects you have access to, and the tables you see may depend on your logging style.

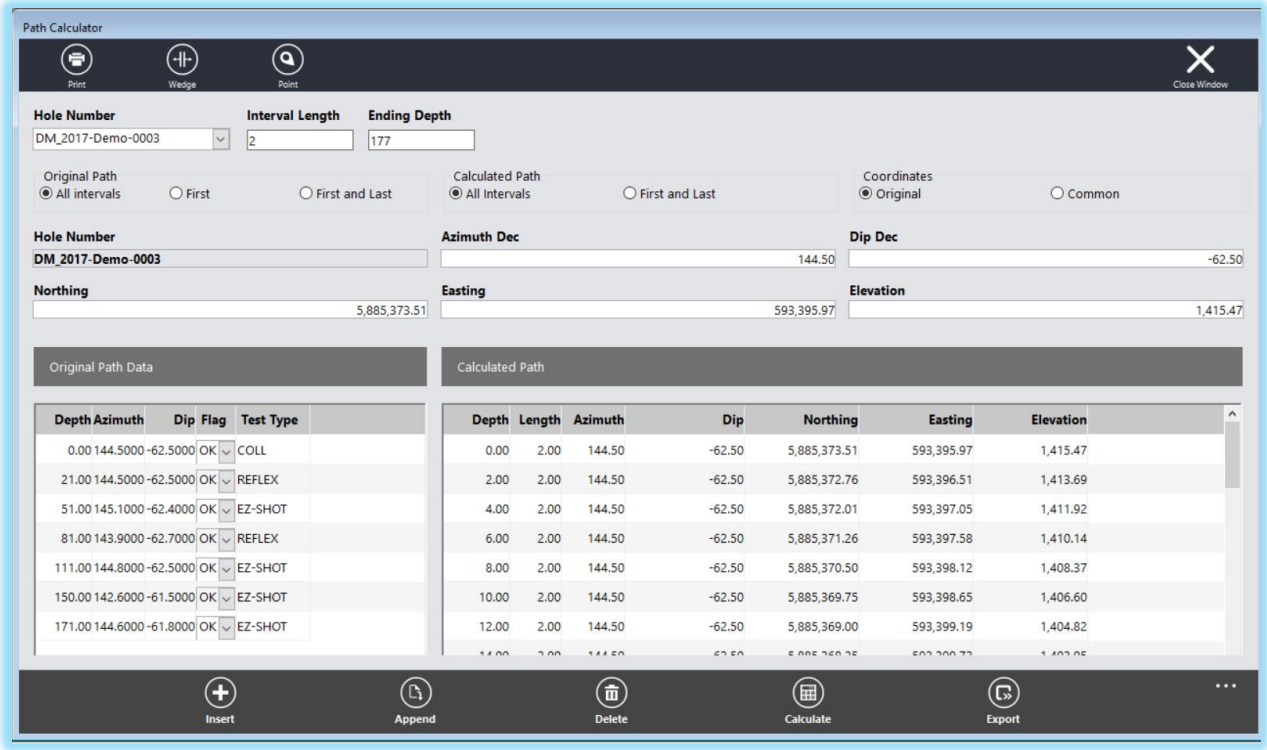
DRILL PATH

This utility is provided to create a path for the drill hole using the Collar Azimuth and Dip, Coordinate, Intervals, Direction, and a specified interval length. It calculates the azimuth, dip and northing, easting and elevation at each interval along the drillhole's path. The calculated values can then be exported, printed, or saved to DHL_DOWNHOLE_PATH.



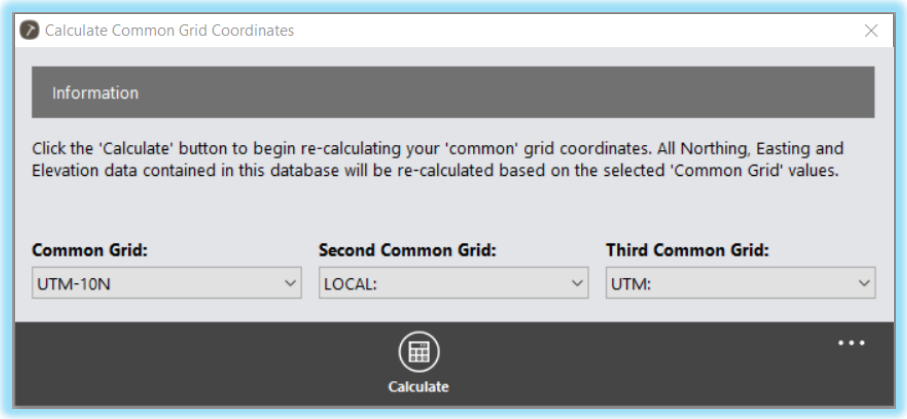
BOREHOLE PATH

The Borehole Path utility provides an alternate path calculator with the ability to specify some additional options, add points and wedges. Again, it uses Collar Azimuth, Dip and Coordinate, and Direction information to calculate a path that can be exported.



CALCULATE COMMON COORDINATES

Convert all the coordinates from their original grid to the common grid(s) from this window.

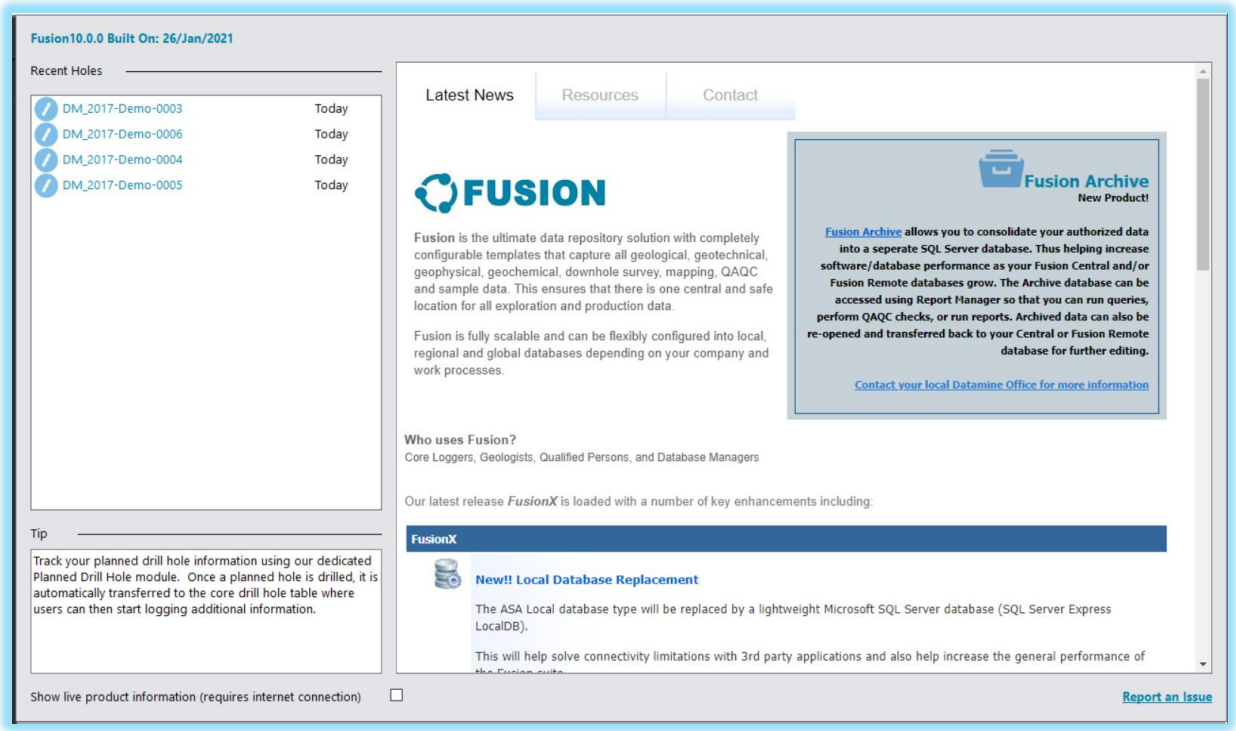


HELP ABOUT

Indicates the version, database version, build date and copyright information.

LATEST NEWS

The new landing page in DHLogger, opens by default when the application starts, but can be overwritten in User Preferences in the Default Module picklist. This Latest News page can also be viewed from the menu item. It contains a jump-point to recently updated drill holes, a tips section, and a link to the latest Fusion news from Datamine Software.



CENTRAL DATABASE UTILITIES

The following are utilities that are accessible in DHLogger when connected to the Central database.

RESET SAMPLE RESULTS

This utility is for clearing the assay results for Global and Size Fraction samples. Doing this reset will allow for a re-import of results that otherwise would be prevented when the "results_received" flag has been set to "Y".

Accessed from the **Sample Analysis > Reset Sample Results** menu.

QC GENERATOR

This module is used to generate a group of samples and standards while ensuring that a certain number of blanks and standards are created depending on the number of non-QC Samples.

Accessed from the **Sample Analysis > QC Generator** menu.

ORIGINAL BUSINESS UNIT MAINTENANCE

This window is used to set or modify the Original Business Unit.

The original business unit is used during the opening of a drillhole when comparing the user's current business unit with the original business unit. When the drillhole is initially created, and data is entered, a set of business rules is used to validate the data being entered. If you then open the drillhole with a different business unit, and attempt a save, there is the potential that the current business unit has different rules for validation, which may cause errors.

A second usage of the original business unit is determining whether the data can be checked out (shared) with other business units. There is an option in the Business Unit window and a setting in the DHLogger.INI file that prevents users from other business units from checking out drillholes created in a business unit that does not allow sharing.

Accessed from the **Administration > Original Business Unit Maintenance** menu.

DESTINATION COMPOSITOR

The Destination Compositor is a module used to create calculations across samples with the ability to specify various parameters (such as Dilution, TopCut, Equivalence Factor), customize columns, create adjustment columns, and customize execution of calculations with formulas. The module is customized in Fusion Administrator, and is accessed in DHLogger (Central) by users that are granted the DESTINATION COMPOSITOR profile.

Accessed from the **Other Options > Destination Compositor** menu.

METAL PRICES

This window maintains a list for metal prices - storing the price, date and source.

Accessed from the **Sample Analysis > Reset Sample Results** menu.

INVOICES

This is a simple Invoice module used to keep track of sampling costs. In addition to data entry screens, there is a Report Viewer that contains some standard reports: Lab Invoice Report, Lab Total Costs, Lab Turn Around.

Accessed from the **Other Options > Invoices** menu.